The Journal of Educational Method

VOLUME I FEBRUARY, 1922 NUMBER 6

EDITORIALLY SPEAKING

SPREAD THE NEWS

If the letters which come to the editorial desk may be taken as a trustworthy indication, the *Journal of Educational Method* has found its place in the field of educational journalism and is assured of long life and much influence. The lengthening subscription list argues for the same opinion. In a few months our circle of readers has widened to include almost as great a company as is appealed to by some journals of many years' standing.

Having won our spurs, so to speak, we feel justified in asking our friends to spread the news, to tell others how good the going is. Marketing costs disproportionately in the distribution of most products. Let us scale down the cost in this case and put the savings into an improved product. If the supervisors, teacher trainers, and progressive teachers who have cast in their lot with us will but pass the word along, the thing will be done. Lend a hand and have a larger part in developing an organ of experience, experiment, and practical philosophy in the field of educational method.

LIMITATIONS OF THE PROJECT

When the *Journal of the National Education Association* gives of its much-sought-for space room for an article on method the reader takes notice. Here must be an utterance regarded as of extraordinary significance. And so it is. Professor W. W. Charters, of the Carnegie Institute of Technology, discourses of the "Limitations of the Project," and, in doing it, presents an issue which no one interested in the progress of education can afford to overlook.

On the surface this is nothing more than the problem of definition. In reality, however, it is a matter of point of view and of an ideal to be set up and striven for. What is a project? Merely an objective activity carried to completion, whether under compulsion, externally directed, or no? Or is it an act which claims to be an act, a *complete* act, precisely because it does involve the essential subjective as well as objective factors? If it is only the former, then we have merely, as some say, a new device, but if it is the latter, then we have a philosophy of method, capable of unifying and giving point to the scientific studies in the psychology of learning through experience which have opened up a new world to the student of method.

The word "project" is, of course, of no great consequence. Anyone is certainly under obligation to suggest a better term if he can. But the idea of a unifying conception, embodying the floating tendencies

toward better teaching, which are so markedly characteristic of our time, *is* worth fighting for. It holds out the hope of a better theory to guide our practice. Upon what a sound historical basis the idea rests, Principal Owen's article in the January issue of the *Journal of Educational Method* clearly shows. Not a new discovery but a new and invaluable synthesis of discoveries, this is what the Project Method really is. Why try to emasculate the idea and so put off the day when we may count upon the aid of a central organizing viewpoint in education?

SUGGESTED STUDIES IN THE FIELD OF MENTAL TESTING

ARTHUR S. OTIS

Director, Department of Test Service, World Book Company, Yonkers-on-Hudson, N. Y.

The writer has recently received a number of requests for suggestions as to researches and minor studies to be made in the field of mental tests by teachers, superintendents, and others. It has seemed worth while, therefore, to publish a list of such researches in order that they might be easily accessible to the large number of teachers and administrators.

The studies listed below, of course, in no sense whatever include all that would be interesting and profitable to undertake even in the field of mental tests with which this paper deals, and no mention will be made of the many interesting studies which could be made in the field of educational tests.[1]

In enumerating these studies, we shall begin with the simpler ones which are suitable for those who are not in a position to undertake extensive or comprehensive researches, involving the expenditure of a large amount of time or requiring a considerable knowledge of statistics. Those studies suggested at the end, however, are of the more comprehensive type and might serve as subjects for theses. The following investigations are discussed:

1. Comparison of the general mental ability of a single grade with that of the other grades.
2. Comparison of the mental ability of pupils and brightness of pupils with teachers' estimates of mental ability and brightness.
3. Comparison between scores in the group and individual administration of a group scale.
4. Experimental reclassification.
5. Comparison between the index of brightness and progress through school.
6. Permanency of the I. Q. or percentile rank.
7. Determination of the correspondence between scores in two or more tests.
8. Determination of what constitutes the difference between brightness and dullness.

1. Comparison of the General Mental Ability of Pupils of a Single Grade with that of the Other Grades.

The comparison of the mental ability of one group of pupils with that of other groups is hardly to be considered a research within itself, but is a project which is very often necessary in preparation for further investigation such, for example, as the relative degree of efficiency of different teaching methods. This investigation

[1] A list of thirteen suggested research problems, dealing largely with educational tests, is given in Bulletin No. 33 of the Bureau of Educational Reference and Research, University of Michigan, dated December 1, 1921.

requires that the methods be tried out on classes whose general level of mental ability is the same, so that the factor of mental ability may not vitiate the determination of the relative efficiency of the teaching methods. It may be desirable, however, to compare different classes of the same grade in a school in mental ability so as to determine whether these differ appreciably, either in order that different types of instruction may be given to the different classes, or that the classes may be equalized in mental ability, so that the same instruction will be equally suitable for both classes. A brief description will be given, therefore, of the method of making a comparison between the mental ability of groups for whatever purpose it may be desirable to make this comparison.

For doing this a convenient method would be to arrange the test papers of the pupils of each class in order of magnitude of score and to find the median score of each class by means of the accompanying table. This is a convenient measure of the "central tendency" of the mental ability of the group, and groups may be compared, therefore, by means of the medians. That group may be considered as having the greater mental ability which has the higher median score.

TABLE

FOR FINDING THE UPPER QUARTILE (Q_3), MEDIAN (M), AND LOWER QUARTILE (Q_1) CASE AMONG ANY NUMBER OF CASES.

The first line of the table is read thus: If there are 20 cases in all, consider the 15th as the Upper Quartile, the 10th as the Median, and the 5th as the Lower Quartile case. The score obtained by the Lower Quartile case is the Lower Quartile Score, etc. By noting the manner in which the columns progress the table may be extended indefinitely.

Number of Cases in Group	Upper Quartile Case	Median Case	Lower Quartile Case
20	15	10	5
21	16	11	6
22	17	11	6
23	18	12	6
24	18	12	6
25	19	13	7
26	20	13	7
27	21	14	7
28	21	14	7
29	22	15	8
30	23	15	8
31	24	16	8
32	24	16	8
33	25	17	9
34	26	17	9
35	27	18	9
36	27	18	9
37	28	19	10
38	29	19	10
39	30	20	10
40	30	20	10
41	31	21	11
42	32	21	11
43	33	22	11
44	33	22	11
45	34	23	12
46	35	23	12
47	36	24	12
48	36	24	12
49	37	25	13
50	38	25	13
51	39	26	13
52	39	26	13
53	40	27	14
54	41	27	14
55	42	28	14
56	42	28	14

The second consideration in the comparison of groups is the comparison of heterogeneity, or, in other words, the determination of the relative degree in which scores of the different groups are scattered. The degree of heterogeneity of a group may be measured in terms of the Inter-Quartile Range (I. Q. R.), which indicates the range covered by the middle 50 per cent of scores. Thus, if the middle 50 per cent of scores of one group covers a range of 55 points, and the middle 50 per cent of scores of another group covers 60 points, the second group is said to be more heterogeneous than the first.

To find the median score and the upper and lower quartile scores of a group consisting of any number of pupils, consult the accompanying table. Thus, if the group contains 21 pupils, the lower quartile, median, and upper quartile scores of the

group will be the scores of the sixth, eleventh, and sixteenth individuals when these are counted in the order of magnitude of the scores, beginning with the lowest score.

There is still another purpose for comparing the mental ability of groups and that is to discover the "overlapping" in mental ability between successive grades. Ideally, pupils should be graded in school in such a way that there shall be very little, if any, overlapping in mental ability, which means that practically all children in the sixth grade, for example, would have degrees of mental ability above those of any pupils in the fifth grade, etc. Even in a case of ideal grading, a pupil in the sixth grade may have a mental ability less than that of some pupil in the fifth grade, because of inadequate educational opportunity in the case of the sixth grade pupil, causing him to be retarded educationally, or because the fifth grade pupil by virtue of extra effort is able to do better than would normally be expected from one with his mental ability.

In most schools, however, where tests are used for the first time, it is found that there are very many sixth grade pupils who have mental ability lower than that of many of the fifth grade pupils, and in the majority of cases this appears to be due to inadequate methods of promotion, by which dull pupils are promoted faster than their ability and achievement warrant, and bright pupils are held back to a slower rate of progress than that of which they are capable because of the lack of provision for extra promotions, etc.

A convenient and vivid way of determining the amount of the overlapping of mental ability between grades will be as follows: First, arrange the papers of each grade in order of score and find the median of the grade. That score which is midway between the norm for the fourth grade and the norm for the fifth grade may then be taken as the proper dividing line between fourth grade mental ability and fifth grade mental ability, and similarly the proper dividing line between the mental abilities of the other successive grades may be determined. The scores may then be tabulated so as to show for each grade separately the number of pupils attaining scores from 0 to 9, from 10 to 19, etc., or better, using smaller intervals of score such as 0 to 4, 5 to 9, etc. These tabulations will disclose at a glance the number of pupils in the fourth grade, for example, whose mental ability is above the dividing line between the fourth grade and fifth grade mental ability, and also the number of pupils in the fifth grade whose mental ability is below this dividing line. The same comparison may be made of the overlapping between other adjacent grades.

If this overlapping is very great, as, for example, when more than half of the pupils of any one grade have scores outside of the range of the mental ability normal for that grade, it would be very desirable to reduce this overlapping in any convenient manner in order that the pupils of any one grade will be as homogeneous as possible.

It is, of course, not desirable to demote pupils, and for this reason most of the adjustment must be made by means of extra promotions of bright pupils. This may have the effect at first of slightly reducing the average mental ability of the several grades, and consequently reducing slightly the grade standards of achievement in the school subjects. This, however, may be atoned for by gradually raising the standards year by year, and it is far better

that the grade standards of achievement in a school should be slightly less than those of other schools than that the pupils should overlap greatly in ability. In other words, it makes very little difference whether a group of pupils doing a certain grade of school work happens to be called the high fourth or the low fifth, so long as the group is homogeneous and is making good progress. But, on the other hand, it is extremely undesirable that for the sake of preserving the conventional standard of achievement in the several grades a state of affairs is perpetuated in which the heterogeneity of mental ability in each grade is so great that the efficiency of instruction is materially impaired.

In order to correct for overlapping, therefore, a good plan would be to allow all dull pupils to remain in the grade where they are found, but to give extra promotions to all pupils whose mental ability is above the dividing line between the grades in which they are found and the grade above. Since, as has just been explained, the standard of achievement in the grade above will be slightly lowered, the probability of these pupils succeeding after extra promotions is greater than would otherwise appear, and it is entirely possible that the efficiency of instruction which may be used in homogeneous classes will be so increased that this slightly lowered standard of achievement in the several grades may very quickly be brought up to standard.

A second and more scientific method of correcting the defects of overlapping is to divide the pupils of a grade into two or more classes on the basis of score. Thus, for example, when the scores of the pupils of a grade have been arranged in order, those pupils making the upper third of scores may be placed in one class, those making the middle third may be placed in another class, and those making the lower third of scores may be placed in a third class. Each of these classes will then be much more homogeneous than the grade as a whole or than a class in which high and low mental ability are indiscriminately mixed.

It should be realized in this connection that the ideal method of grading and classifying is that the pupils of each grade should have degrees of mental ability completely within the limits set by dividing lines, as explained above, and that in addition they should be divided into three or more groups on the basis of brightness, as measured by the Index of Brightness, the Intelligence Quotient, or the Percentile Rank. Since this procedure, however, would in most schools cause a very great amount of shifting, it is not generally desirable to attempt to make such a classification suddenly, but if the form of classification suggested above, made on the basis of mental ability, be adopted initially, this form may gradually be changed to the more ideal form as the overlapping of mental ability between grades is slowly reduced by means of extra promotions.

2. The Comparison of the Mental Ability and Brightness of Pupils with Teachers' Estimates of Mental Ability and Brightness.

After a teacher has had a class of pupils under her instruction for a period of a month or two, she should have formed a fairly adequate opinion as to the degree of mental ability and of brightness of her pupils. And yet in most cases where the pupils of a grade are tested, certain pupils are found to make high scores whom the teacher had never suspected were capable of so doing, and conversely, some pupils

make much lower scores than the teacher supposed they would make. The value of mental ability tests, however, is greatest if these are given when, because of brief acquaintance with them, the teacher's judgment of their degrees of mental ability is wholly inadequate, as, for example, at the beginning of the school year, when it is most desirable that the pupils should be properly classified. In order to determine the degree to which the results of tests of mental ability given at the beginning of the year, or indeed at any time of the year, agree with the mature judgment of the teacher when she has become well acquainted with the pupils, it is of interest to have the teacher make estimates as carefully as possible of the relative degrees of mental ability and of brightness of her pupils, as independently as possible of the tests, and then to compare these estimates with the test results. If the tests have been given at the beginning of the year, the comparison will be most valid, of course, if the estimates are made by a teacher who has not seen the test results. Or if they have been seen by the teacher, she should attempt to be as little influenced by them as possible in making her estimates. If the tests are to be given after the teacher has become acquainted with the pupils, she should make her estimates before the tests have been given.

In order to compare scores with teachers' estimates of mental ability, the latter may be expressed conveniently in terms of rank. Thus, for example, the teacher may place at the head of her list the name of that pupil whose mental ability she considers to be furthest developed regardless of his age. She may place next the name of the pupil whose mental ability she considers to be next furthest developed, etc., ending with the pupil whose mental ability appears least developed regardless of age. After the scores have been found, these may be arranged in order of magnitude, and the rank of each pupil in score may be found and placed beside his rank in the teacher's estimate of mental ability. The discrepancy will be at once apparent. Thus, for example, it may happen that the child whom the teacher ranked as highest in mental ability may have a score which ranks fourth in magnitude among those of her pupils. Any case of great discrepancy should be carefully investigated by the teacher for the purpose of discovering upon what grounds she ranked the pupil either higher or lower than his test score seemed to warrant, and in all cases where the score is lower than the estimate the teacher should, if possible, re-examine the pupil in order to determine whether he has done his best in the examination. If the pupil's rank according to score is higher than his rank according to the teacher's estimate, it can hardly be considered that he did more than his best in the test, and the fault is likely to be in the teacher's estimate. In either case, the teacher should endeavor to correct her estimate by reconsideration of the available evidence with a view to justify the higher score, or to discover any possible error in the score, due to either nervousness or failure on the part of the student to properly understand the directions on the test so that the final test scores and estimates may agree fairly well. When this has been done, the purpose of the testing will have been largely attained and many interesting facts will no doubt be brought to light in the process. Thus, for example, it may be found that a pupil who the teacher thought could not do well in school does after all have the mental

ability to do very well and only lacks stimulation and encouragement, which may be given in many cases by extra promotion. Again she may find that some pupil who, because of very engaging manners and alert expression of the face, has seemed to her to be very bright, after careful re-examination will be found not to have the mental ability estimated by the teacher, so that the teacher will know better what to expect from this pupil in the future.

In a similar manner the degree of brightness of pupils (the relation between mental ability and age) may be estimated by the teacher separately or in conjunction with estimates of mental ability. These should then be compared with measures of brightness obtained by the IB, CB, IQ, or PR. This comparison may be made by comparing ranks in a manner similar to that described above for comparing estimates and measures of mental ability. Such a comparison is very likely to disclose the fact that the teacher in some cases has not adequately taken into account the age of the pupils, and for this reason has overestimated their degrees of brightness. Thus, a fifteen year old pupil in the sixth grade who is small of stature and who does very good sixth grade work may be rated by the teacher as fairly bright, possibly above the median brightness of pupils of her class, whereas if she had realized how much the ability of this fifteen year old child was below that of the normal fifteen year old child, she would have given a very much lower rating in brightness.

Discrepancies in these ratings of brightness should also be carefully studied by a reconsideration of the grounds upon which the estimate was made or by giving re-examinations if this seems best.

3. Comparison between Scores in the Group and the Individual Administration of a Group Scale.

As has been indicated above, it is frequently desirable to give second examinations to pupils whose first scores do not accord with teachers' estimates of mental ability. For this purpose a second group test is often found sufficient. Any nervousness on the part of the pupil or failure to understand directions in the case of the first examination may be entirely absent on a second examination, in which case the pupil may make a score in the second examination very much more in accord with his mental ability. If, however, a second group test does not yield an explanation of the discrepancy, an individual examination should be administered. For this purpose it is customary to use the Stanford Revision of the Binet Scale. There is a slight disadvantage in this, however, since the correspondence between Stanford-Binet Mental Ages and scores in the several group tests has not been carefully established as yet. An investigation of this correspondence is suggested below. For this reason it may be found more advantageous for the teacher to examine the pupil individually, using one of the examination blanks on which he has already taken the test. The questions may then be asked of the pupil orally and his answers compared with those which he gave on the test blank. This form of comparison is very illuminating, since it can be determined just what questions he was not able to answer in the group examination but which he is able to answer when asked orally in an interview. Needless to say, the teacher should be very careful in giving such an individual examination that all nervousness on the part of the pupil is eliminated before beginning the examination.

For this purpose introductory remarks may be of value, such as the following: "On looking over your test paper, John, I thought that you had not done your best. Do you think you did?" The child will undoubtedly say that he did not and the teacher may then say: "Well, now let me ask you some of these questions again so as to give you another chance." This should elicit from the child his very best effort. In giving this individual examination, the teacher should give every encouragement to the pupil and conceal as far as possible any mistakes which he may make of which he is not conscious. If it should be found that the pupil is still unable to answer correctly those questions which he missed in the group examination, the score may be taken as an accurate measure of his mental ability. If, however, he is able in the individual examination to answer correctly those questions which he missed in the group examination, it would appear that the score was not an adequate measure of his mental ability, in which case the teacher may either revise the score according to her best judgment or may administer the Stanford-Binet Scale, or the Herring-Binet Scale.[1]

This shows the need for an investigation of the relation between scores in a group test when administered to pupils in groups, and scores in the same test when administered individually and orally. For this purpose a large number of pupils in a wide range of grades should be tested by both forms of a group examination, such as the National Intelligence Tests or the Otis Self-Administering Tests of Mental Ability:[2] Higher Examination or Intermediate Examination, administering one form to the pupils in groups and later administering the second form to the same pupils individually and orally, observing, let us say, the same time limits as indicated for the group examination. The scores made in the group administration should then be compared with those made in the individual administration for the purpose of determining what score a child is most likely to make in the individual examination who has made any given score in the group examination.

4. Experimental Reclassification.

In the description of study No. 1, methods of reclassifying pupils into three or more classes within a grade on the basis of mental ability or on the basis of brightness have been explained. When such reclassification has been made it is very desirable that those pupils who are given extra promotion should be very carefully followed up to determine their degree of success in the higher grade, both as to quality of school work and as to the effect upon the child. Similarly when classes are made more homogeneous by the division of grades upon the basis of either mental ability or brightness, the efficiency of teaching should be carefully investigated in order to determine whether there has been an improvement. When the pupils of a grade are divided into bright, normal, and dull classes on the basis of measures of brightness, these classes may be given school work of different degrees of intensity. The bright pupils should be given much more difficult problems to solve and more of them and should go more deeply into the content subjects.

[1] The Herring Revision of the Binet-Simon Tests is a new individual mental ability examination, published by the World Book Co., Yonkers-on-Hudson, N. Y.

[2] A new series of group tests for grades 9 to 13 and 4 to 8 respectively, published by the World Book Co., Yonkers-on-Hudson, N. Y.

On the other hand, the dull pupils should be given problems commensurate in number and difficulty with their degree of ability, and may be given only minimum essentials in the content subjects in order that at the end of the school year they shall appear to have covered the same ground as the brighter pupils, and in order that they may be promoted into a dull section of the next grade, in which again they will be given school work commensurate with their ability and where their effort may be spent with the maximum of result.

When such an experiment is undertaken in classification, it is especially desirable that the school work of the pupils be carefully studied in order that adjustments may be made by shifting pupils from one class to another where classification does not appear to be adequate. It would be very desirable to investigate the attitude of the pupils in the various classes to determine the psychological effect of such classification upon them, both as reflected in the quality of their school work and as exhibited in their attitude toward pupils in other classes. It would be very desirable also to investigate the attitude of parents toward having their children thus classified in order to throw light upon the subject of classification. It is indeed quite likely that the best results may be obtained by so designating these classes that no distinction between them is apparent, and also by conducting the instruction in such a way that differences of instruction are as inconspicuous as possible—not for the purpose of deceiving the pupils so much as for the sake of avoiding any discouragement which may come to a young pupil from the feeling that he is incapable of the same achievement in his school work as that of which his fellows are capable.

5. Comparison Between Index of Brightness and Progress Through School.

There are, of course, several purposes for which the results of intelligence tests are used and the efficiency of the tests must be judged, therefore, separately according to the use to which the results are to be put. Thus, if we wish to find the best test of predicting a child's ability to progress in school, the various tests must be compared for this specific purpose, whereas, if it is proposed to use the results to predict the quality of school work which a pupil may do, the tests must be compared specifically in this regard. Of a number of tests, one may be superior for one purpose and another for another purpose.

Let us suppose it is desired to choose the best one of several tests in mental ability for the purpose of determining pupils' ability to progress in school. For this there are two methods of making such an investigation. The first one is to administer several tests to the same group of pupils and keep careful record of their progress during the next one or two or three years, and afterward compare their progress through school with the results of the initial tests. A second method which, while not so accurate, is necessary in order to save waiting, is to compare the results of the tests with previous progress made in school. It will be realized, however, that even though the results of tests administered in the sixth grade may correlate quite well with the progress which the pupil has made in the grades from one to six, it does not follow necessarily that the results of the same test administered in the third grade will be equally prognostic of the progress which the child will make in the next three or four grades. Whichever method is used, it must be kept in mind that it is necessary

to compare the pupils' progress through school not with their scores, but with their measures of brightness as expressed in terms of IB, CB, IQ or PR which are derived from their scores. The relative values of the several tests in determining pupils' ability to progress in school may be found by comparing the coefficients of correlation between ability to progress in school and measures of brightness obtained by means of each of the several tests.

It should be realized in this connection that numerous studies have been made in which a coefficient of correlation is found between scores or measures of brightness obtained by a single test and ability to progress in school or the quality of school work or teachers' estimates of mental ability, etc., and that while these are of some value in themselves, it is by no means proper to make comparisons between one test and another unless both tests were administered to the same children and were compared with identical measures of school progress, etc. The reason for this is that mental ability tests do not differ greatly in efficiency and the coefficient of correlation between measures of brightness obtained by tests and progress through school is very markedly affected by several different factors. First of all, the coefficient of correlation thus found is very materially affected by the degree of heterogeneity of the group. If calculated in the case of a select and homogeneous group the correlation will be very low, whereas if calculated in the case of an unselected and very heterogeneous group the correlation will be much higher for the same test. Again, schools differ very widely in the number of extra promotions which are given and in the amount of retardation of dull pupils, so that if the study is made in a school where practically no extra promotions are given and most children are allowed to progress regularly one grade per year, the correlation will be very low, whereas if the same study is made in another school where careful attention is given to extra promotions for bright pupils, the correlation for the same test may be much higher. Again, if the study is being made of the correlation between test results and teachers' estimates or school marks, the amount of the correlation for a single test will depend very largely upon the care with which the estimates or the marks have been made. Therefore, if it is desired to compare several tests as to efficiency for any purpose, these must be tried out upon exactly the same pupils and exactly the same criterion must be used in every case.

6. Permanency of the IQ or Percentile Rank.

A number of studies have been made recently to determine the permanency of the IQ. So far as these pertain to the lower ranges of mental ability these studies are of great value, but in so far as they deal with the upper ranges, their value is questionable, for reasons given below.

The Intelligence Quotient was invented for the Binet Scale. It is obtained by dividing the Binet Mental Age by the chronological age (not over 16 years). Whenever it is desired to express a degree of brightness in terms of an Intelligence Quotient, the score of the pupil, by whatever tests it may be obtained, should first be transmuted into terms of a Binet Mental Age. Now, Binet Mental Ages are generally considered to represent approximately equal steps in mental ability. That is, the steps between Binet Mental Ages of 13 and 14, 14 and 15, 15 and 16, 16 and 17, etc., are presumably approximately equal steps in mental ability. On the other hand, however, it is

universally appreciated that in any given individual the growth of mental ability becomes retarded after the chronological age of about 14 years, so that the increment of mental ability of any given individual between the ages of 14 and 15 is slightly less than the increment of that individual between 13 and 14. His increment of mental ability between 15 and 16 years of age is still less and the increment between 16 and 17 years, if indeed there is any growth between these years at all, is still less. If the reader will follow out carefully the implications of these statements, he will see that the Intelligence Quotient of an individual as customarily derived cannot possibly be expected to remain constant. Thus, if it is a fact that the increment of growth of mental ability between the ages of 15 and 16 is less than that proportional to the increment of chronological age, the Intelligence Quotient must of necessity decrease slightly. On the other hand, if the increment of growth between the ages of 15 and 16 *is* proportional to the increment of chronological age, then the growth of mental ability does not stop suddenly at the age of 16, which means that if 16 years is used as the denominator in figuring the Intelligence Quotient of a single individual, first at the chronological age of 16 years and then at 17 years, the intelligence quotient at 17 must of necessity be greater than that at 16. It may be seen, therefore, that no matter at what age the growth of mental ability begins to slow up, the Intelligence Quotient of a single individual must either decrease slightly just before the age of 16 or increase after the age of 16, or both. It cannot be otherwise unless we suppose that mental ability develops regularly up to the age of exactly 16, that is, with equal yearly increments, and then suddenly ceases altogether. This, of course, is an impossible supposition.

It should be clear, therefore, that any attempt to investigate the permanency of the IQ in the upper ranges which does not take account of these facts cannot yield valid results, for when changes in IQ which must of necessity occur in the upper ages, by virtue of the reasons set forth, are thrown into the same group with IQs derived in the lower ranges, the result can be nothing less than confusion, for any stability of the Intelligence Quotient in the lower ranges is entirely lost sight of because of the introduction of necessarily variable IQs from the upper ranges.

This whole difficulty could be simply and easily remedied by a slight modification in the present method of finding Intelligence Quotients. Thus, instead of dividing the Binet Mental Age which the individual attains by his chronological age, this should be divided by the Binet Mental Age which is the norm for his chronological age. In that case, it will easily be seen that a child whose mental ability develops in such a way that he attains at each chronological age exactly that mental age which is the norm for his chronological age, his Intelligence Quotient will remain exactly 100 throughout the development of his mental ability, and in a similar way it may be shown that the IQ of a bright or dull child may be expected to remain constant, since this method automatically takes account of the slowing down in the growth of mental ability in the years following the age of 14 and sets no arbitrary point at which mental ability must be assumed suddenly to cease developing.

If an investigation is made, therefore, of the permanency of the IQ, the IQ should in all cases be obtained by dividing the Binet

Mental Age obtained by the individual by the Binet Mental Age which is the norm for his chronological age. This amounts to exactly the same thing as finding the "Coefficient of Brightness" as provided in the 1919 edition of the Manual of Directions for the Otis Group Intelligence Scale: Advanced Examination, a method which has been adopted among others by Monroe and Buckingham for use with the Illinois Examination.

The really important question is this: Will a pupil maintain the same percentile rank (among children of his own age) throughout his growth of mental ability? This is a very reasonable condition to expect, for there is no makeshift in the method of obtaining percentile ranks such as that in the determination of Intelligence Quotients by dividing by the chronological age up to 16 and arbitrarily calling all pupils 16 who are over 16 years of age. It is suggested, therefore, that an investigation be made of the permanency of the percentile rank of individuals by testing the same pupils at different ages and converting test scores into percentile ranks.

In making this investigation it may be realized that it is not adequate to find the median or average percentile rank of a group when first tested and the median or average percentile rank of the same group in the second testing, and to compare only these medians or averages since the percentile ranks of some children may increase and of others may decrease and the median or average of the group may remain the same. Such a comparison would be of incidental value in showing whether the percentile ranks of the group as a whole seem to rise or fall, but if the median percentile rank of a group should either rise or fall, the presumption would be that there was some error either in the norms or in the table for finding percentile ranks.

On the other hand, however, it is entirely conceivable that pupils may actually change in percentile rank as they grow older, either because their development of mental ability has become less than is normal for their ages, or for some reason has speeded up. An investigation of the permanency of percentile rank may, therefore, serve a double purpose, first, as a check upon the accuracy of the norms and tables for finding PR, and, secondly, to see whether all pupils develop mentally according to the same type of curve of growth.

Since the units of the percentile rank scale are of unequal value, that is, the interval between 50 and 55 on the scale is much less than the interval 90 to 95, it is not possible to compare directly the change in one portion of the scale with the change in another portion in which the units are of different magnitude. For this reason, the median change in percentile rank should be given separately for all individuals whose percentile rank according to the first testing was between 50 and 60, and separately for those whose percentile rank according to the first testing was between 60 and 70, etc. A statement of the median amounts of change of percentile rank either upward or downward of pupils whose initial percentile ranks fall within each interval of 10 points will be exceedingly illuminating and throw much light upon the possibility of prognosis of future degrees of brightness of pupils making any given percentile rank at any given stage of their mental development.

7. Determination of the Correspondence between Scores in Two or More Tests.

Requests are frequently sent to the writer for tables for converting scores of one test

into terms of another, such, for example, as expressing scores in the Otis Advanced Examination in terms of scores in the Army Alpha Intelligence Examination. Numerous studies have been made for the purpose of finding the coefficient of correlation between two tests, but these do not seem to have been followed up by an investigation of the correspondence between scores. By correlation between scores is meant the degree to which high scores in one test imply, or are accompanied by, high scores in the other test, and similarly the degree to which low scores in one imply or are accompanied by low scores in the other. By the determination of the correspondence between scores is meant the determination of the score in one test which most probably measures the same degree of mental ability as the given score in the other test. It might be found, for example, that the correlation between the Advanced Examination and the Army Alpha is .80, but this does not tell us what score in the Advanced Examination corresponds to a score of 135, for example, in Alpha.

The method of determining the correspondence between scores in two tests is as follows: Administer both tests to the same group of individuals, using as heterogeneous a group as possible. Next make a distribution of the scores of the group in each test. Find the 5 percentile, 10 percentile, 15 percentile, 20 percentile, etc., score in each test. It may be assumed roughly that the 5 percentile score in one test corresponds to the 5 percentile score in the other, and that the 10 percentile score in one corresponds to the 10 percentile score in the other, etc. This method may be refined somewhat, however, by plotting on a sheet of cross section paper the 5 percentile scores in two tests, one being measured horizontally and the other vertically, and plotting the 10 percentile scores, 15 percentile scores, etc., in the two tests in a similar manner, and then drawing a smooth curve as nearly as possible through these points.[1] The most probable form of this "curve" will be a straight line, but it is not proper to assume in advance that it is straight. By means of this smooth curve the correspondence may be found between scores in the two tests. For any point on the curve the score in one test on the horizontal scale below the point corresponds to the score in the other on the vertical scale opposite the point.

If the two tests which are being compared are given on the same day, it will be readily appreciated that some practice effect is likely to carry over from the first to the second test which will render the score in the second test somewhat higher than would have been the case if the first test had not immediately preceded it. In order to eliminate this extraneous factor, it is necessary to give one of the tests first in half of the cases and the other test first in the other half of the cases. It may be well, then, to find the correspondence separately for each of the two groups in order that the effect of practice may be ascertained. The true correspondence between the tests may then be assumed to be what may roughly be called the average of the two lines, obtained as described above.

On the other hand, if the second test is given, say, in two or three months, due allowance must be made for this fact in finding the correspondence between the scores, since obviously a score in one test

[1] This method has been described and illustrated in an article entitled "The Reliability of the Binet Scale and Pedagogical Scales," *Journal of Educational Research*, September, 1921, page 125.

cannot be assumed to be the equivalent of a score for the same child in another test taken after his mental ability has developed somewhat. To make allowance for the growth of mental ability between testings, find the line showing the correspondence between scores, as described above, and then subtract from the second score the normal amount of score gained in the length of time which has elapsed between testings, as shown by the table of norms.

Caution must be noted at this point. The reader should appreciate that if two tests are administered to the same pupils, a pupil making a given score in one test will not necessarily make the corresponding score in the other test. In fact, if a plot is made of the scores in the two tests as for the purpose of finding the correlation in two tests, it will very readily be seen that a pupil making a very high score in the first test tends to make a score in the second test somewhat lower than that corresponding to his score in the first test, and a pupil making a very low score in the first test tends to make a score in the second test somewhat higher than that corresponding to his score in the first test. It is hardly within the scope of this article to explain the reason for this, but it may be said briefly that high scores for any particular group tend to be an error upward and low scores for any particular group tend to be an error downward. Investigation of the correspondence between scores in the various group tests and the Stanford Revision of the Binet Scale is especially needed, particularly in the upper ranges of these scales where the scores are in excess of norms for any chronological age and where comparison by means of age norms is consequently impossible.

8. What Constitutes the Difference between Brightness and Dullness?

This is not a statistical research but a psychological one. Let us suppose we have before us two pupils, each making the same score in a mental ability test. We say, therefore, that they have the same degree of mental ability. Let us suppose, however, that while this mental ability is just normal for a ten year old child, one of these children is 12 years old and one is 8 years old. We, therefore, say that the first child is dull and the second child bright. Now, there is some fundamental difference in the quality of mind between these two children and this difference is by no means understood. Any investigation throwing new light upon the differences in quality of mind between two such children will be a distinct contribution to psychology. It is suggested, therefore, that an investigation be made of the mental characteristics of very bright and very dull pupils having the same degree of mental ability, for the purpose of discovering if possible what fundamental quality of mind differentiates bright pupils from dull ones having the same mental ability. Indeed, in the present state of our knowledge one may hardly make a suggestion as to what might be discovered, so that the field may be considered as almost virgin soil for future investigation.

The writer will be glad to know of anyone who wishes to undertake any of these researches and will be glad to give any help which he can to the investigator. It is especially requested that an account of any of these researches which are made be sent to the writer, care of the World Book Co., Yonkers-on-Hudson, N. Y.

COERCION AND LEARNING

(Concluded)[1]

WILLIAM HEARD KILPATRICK

Professor of Education, Teachers College, Columbia University

"Let's go on with our discussion of coercion. I am anxious to get my ideas straight about coercion and a love for playing the piano."

The teachers meet again

"Very well. Only let us first recall our main line of thought so that we may not lose connection. We agreed by a kind of definition that the presence of an aroused contrary mind-set is the sign and accompaniment of what we call coercion. The normal and legitimate effect of such a contrary mind-set we concluded is to bring unreadiness for the coerced action and to lessen—in any event—the satisfaction accompanying the successful completion of this action. This unreadiness and accompanying lessened satisfaction would mean by the psychological law of Effect less of learning in connection with the coerced activity.[2] From this we further concluded that if we wish a child to learn best we should as far as feasible avoid arousing the contrary mind-set."

A summary of the effect of coercion

"Well, isn't it inevitable that if you force anything on another you do arouse opposition, and isn't this feeling of opposition just what you mean by a contrary mind-set? If this is so, then doesn't coercion, however you define it, necessarily prevent learning? How can one ever learn to play the piano through compulsion, still less learn to like it?"

"Not so fast. You are ignoring certain necessary qualifications to your statements. The typical result of forcing conduct upon another is, true enough, to arouse opposition; but there are many possible degrees of such opposition. Some are so weak as hardly to mean a contrary mind-set. More to the point, however, we never have said that an opposed mind-set destroys or prevents all learning in connection. On the contrary, human responses are always mixed. We pointed out explicitly in the case of the boy kept after school to work his problems that he had at least two mind-sets, one of opposition to the teacher, the other much weaker as a rule but still present, to solve the problems. When he succeeds in solving the problems he feels some satisfaction. This satisfaction may come from either of two sources. He feels satisfaction first at getting out. The more exclusively his satisfaction as he finishes is centered consciously on getting out, the less in probability does his success fix any mathematics in his mind. The second satisfaction arises from the success attending his efforts at the mathematics. He may, it is true, have felt his resentment and opposition so keenly that he wouldn't even try to solve the problems. If so, no effort, and therefore no chance for success or satisfaction, and consequently no possible learning. But if

Coercion does not prevent all learning

[1] All rights reserved by the author.

[2] Thorndike's Law of Effect may be freely stated: When any response is made, the tendency so to respond is strengthened or weakened according as satisfaction or annoyance follows.

he did try at all and did make any sort of success, then there will be some satisfaction and consequently some learning."

"You do admit, then, that coercion can bring learning?"

"Certainly. We have all the time said that coercion might and usually would bring some learning. Our point has been that in so far as coercion arouses and maintains a contrary mind-set, it tends to reduce and lessen the learning we wish."

"Then coercion is merely a poor way to get things learned?"

"It is that, true enough, but it may be worse than that. We have in this whole discussion been ignoring all those accompanying learnings we discussed in September and October. In any actual case before us they have to be considered. Coercion may teach on the side, as it were, many undesirable things. For instance, many boys who have been badly managed in school conceive such a distaste for school that they leave it as soon as the law allows, to the hurt both of their own future and of society at large."

Coercion and concomitants

"Well, may we not go back to the piano playing? I think I see now how a girl may learn to play from compulsory practice on the piano. Isn't it just like the boy kept in after school,—the girl will as a rule give at least *some* attention to her practice and if she succeeds even a little bit, she will have some satisfaction arising from her success. So she will learn at least a little."

Piano playing under coercion

"Yes, that is exactly the case. Of course the more she puts her soul into what she does, the more likely she is, first of all, to succeed, and also the greater will be her satisfaction in what she accomplishes, and consequently the better will be her learning."

"I find myself confused a little just here. I thought the question was not whether the girl will learn to play a piece from enforced practice. That I never doubted. The question I asked last time was whether the coercion if persisted in by the mother wouldn't result in a fondness for piano playing in the girl. And if this is so, it seems to contradict your analysis."

"You mean, then, to ask whether coercion can create a fondness. And if yes, how can we reconcile this with the effect of annoyance, which would be expected to create an aversion?"

"Yes, or you might put it, whether coercion can build an interest. I should certainly expect from your line of argument that an aversion and not a fondness would result."

"What are the observed facts? Does coercion build fondness or aversion?"

"I think I can answer that. Of course I haven't kept any statistics, as some of you would say; but my experience as a music teacher through a good many years is this: if a girl has talent and if she is begun right so that she feels herself succeeding, she will learn rapidly. If she does learn rapidly and keeps on growing in her music and if people praise her playing, she will grow more and more fond of her music. But if she has no talent, she won't learn very rapidly and will easily get discouraged. Then when people don't praise her playing, she will begin to look for praise and satisfaction along other lines. For such a girl a strong fondness for the piano will seldom, if ever, develop."

"But you said nothing about coercion and its effect."

"I don't think much about that with my pupils. It may help or it may hurt."

"I wonder if we haven't now the essential facts before us. If a girl has no talent for playing she will sooner or later find it out. If she is normally sensitive to what people say, she will gradually leave off playing for others. In such case the coercion couldn't help, it might hurt. If a girl has talent but doesn't know it, a certain amount of coercion—skillfully applied—may overcome an initial objection to practising until her success, which is probable from her talent, brings satisfaction enough to build a fondness. In such cases the coercion may help."

When coercion can help

"Why say 'may help'? Why not say 'does help'?"

"Possibly you are right, but I must believe in every case that so far as the child feels the coercion to be coercion, the desired learning is lessened. I admit the need for getting the child to put forth the necessary initial effort, but I can not admit that coercion is always the best way to secure this needed effort. Remember that coercion naturally lessens both the chance of success and the accompanying learning. Perhaps some other way than coercion might arouse the effort without at the same time incurring the hurtful effect almost bound to follow in some measure from coercion. In other words, as a teaching instrument coercion is always in some measure an evil. In a particular case it may be the best available instrument. If so, use it. But know all the time that it carries with it evil possibilities."

"Do you refer by 'evil possibilities' merely to the lessened learning or to the bad concomitant learning?"

"To both. We can never lose sight of either. If we decide to use coercion in any particular case, we must decide only after a full survey of all the probable results."

"You do admit, however, that coercion does sometimes build an interest."

"I must admit it. The facts as well as my own theory demand it as a possibility."

"Would you mind recapitulating your position on this point?"

"I am glad to do so. Building interests is perhaps as important a work as education can undertake. Whether it is feasible to build an interest along any given line depends first of all on the native capacities of the person."

"May I interrupt you? Do you refer here exclusively to some specific talent, such as a talent for music?"

"No, although some pronounced capacity or talent may be the dominating factor. I mean, however, to include other instances where the activity involves many different satisfactions as, for example, what we popularly call 'manipulation,' 'inventiveness,' 'social approval,' and the like."

"Haven't you now so broadened your conception as to take in all conceivable activities?"

"Yes and no. There is practically no activity to be shut out entirely. The Hindu fakir who daily tortures his body has actually built up in himself this repulsive practice as an interest."

"It may be an aside, but would you mind saying a further word about building interests? I mean without special reference to coercion. If I correctly understand you, there are first some necessary prerequisites and then an appropriate procedure."

"I myself reckon two necessary prerequisites for an abiding interest: first, enough capacity for the activities involved to bring continued satisfaction; and second, a growing activity. The first

Prerequisites for building an interest

may refer more specifically to one dominant talent, as for mathematics or music, or it may contemplate only a combination of more ordinary powers. But there must be the possibility of continued satisfaction from the exercise of the activity. The second prerequisite, that of the quality of growing, it seems is not equally necessary for all people; but on the whole the interest will not be abidingly gripping unless it continually faces at least some element of novelty."

"These I understand to be the prerequisites. Now what about the procedure?"

"The essential of the procedure is our old law of Effect, Exercise with satisfaction. We must somehow get vigorous action along the desired line and of a kind that brings a high degree of satisfaction. Suppose we say it in tabular fashion:

The procedure for building an interest

1. Get the activity going with zest,—if possible in the face of obstacles that challenge all but the last reserves of power.
2. See that success attends.
3. If possible, let there be approval from those whose approval is valued.

If the two prerequisites have been met and this procedure can be followed, I believe you will with practical certainty see an interest growing."

"You seem to think that overcoming hindrances is a help to interest. Isn't that contrary to general opinion?"

"Perhaps so, but I am sure of my ground. Granted an initial mind-set in that direction, there are few things so interesting as overcoming a difficulty that calls for all but the last ounce of available energy. Of course if difficulties of this sort keep on confronting us, we have to be sustained by a belief that the end is worthy of the effort. Approval of others helps just here; it steadies our faith in the end."

Overcoming hindrances

"What do you mean by an interest when you speak of building an interest? Your last remark seems to me to imply the presence of interest, but not of *an* interest, as I understand the term. Interest is there, but it seems to be fleeting, found only in overcoming and the like. I thought you were to build up a permanent interest in some end that would supply interest to the necessary means."

The meaning of an interest

"Your distinction is well made and properly made. We do contemplate building an interest that will carry its own drive. Unless it comes about that the end, or the working with and toward the end, carries its own drive, arouses an inner urge, is desired for its own sake—unless these things happen, no interest has been built. Now what I mean is this: if one does put heart and soul with very great endeavor in working for some end, especially for some difficult end, if one sees himself succeeding, if one hears meanwhile the plaudits of those whose praise counts with him,—then not only is there interest in overcoming and in being approved, but you may be reasonably sure that an interest will in time be built which will of its own pull carry the person on without plaudits, perhaps even against jeers, without even present signs of success, but with many and varied efforts in a real struggle to achieve the end that is called for by the interest. Such an interest becomes as it were an intrinsic source of effort, capable of lending interest to auxiliary causes."

"From this discussion on building interests I see now more clearly than before how coercion fails. But couldn't we go further? Wouldn't these two discussions have important bearings in the field of moral education?"

Virtues as moral interests

"Just what do you have in mind?"

"Are we not, in the realm of morals, mainly concerned with building what might be called moral interests? For example, with building up in the child interests in honesty and fair play and consideration of others? If I understand rightly, honesty is indeed the best policy, but the man who acts honestly merely from policy is not really honest. Do we not wish to make him love honesty for its own sake, and isn't this substantially the same thing as the interest you have just described?"

"Yes. We wish these moral virtues and other social interests enthroned in the hearts of each one so that they are, so far as one's feelings at the time go, their own justification for being. Of course we wish more in the way of understanding the why of them and more in the way of loving our fellow men and so on; but you are exactly right as to their psychological character. They are interests to be built in the hearts of the young."

"And would the same procedure hold for these as for the others?"

"Yes, so far as these are interests, they are to be built in the same way. But some of them are broad generalized ideas and would accordingly demand first the procedure necessary for making such generalizations. That, of course, is another story."

"Would the same limitations on coercion hold in building these interests as hold, say, in building a fondness for piano playing?"

"Yes, and perhaps in effect even more strongly. In piano playing we have the possibility that great natural capacity for music may bring success in spite of the lessened efforts due to the coercion. In this way we have the possibility that the opposed mind-set will disappear under these favorable conditions and an interest accordingly come to be built. There are even good grounds for supposing that strong native capacity and initial interest are usually found together. The coercion might in such cases serve to cut off rival activities. The native ability would do the rest."

"Might not the same thing hold in the realm of morals? Are there not born moral geniuses, just as there are born musical geniuses? I fail to see why the same discussion would not hold unchanged."

"It would probably hold unchanged if we were content to have as many people incompetent in morals as in music. We are for the most part willing—indeed more than willing—to leave the making of music to the gifted few. But everybody needs morals, especially—as the humorist said—does the other fellow. So we must try to build moral interests often in mediocre native ability."

"You mean then that we may use coercion in morals where we don't in music?"

"No. Coercion is just as hurtful in one as in the other. We saw that coercion, if skillfully managed, might in music cut off thwarting interests and give the natural interests a chance to develop. In the same way, skillfully applied, it may help in morals, but remember that morals must be built even where there is no pronounced moral capacity to help us."

"I wish you would illustrate this. I don't quite follow all you have said."

"Suppose at home some evening the younger children persist in making so much noise that the older children cannot study and their parents cannot read. What should we do and why?"

A moral situation

"That's easy. I'd tell them to stop. If they didn't I'd send them to bed. Coercion or not, I certainly would not allow any of my children to ruin everybody else's happiness and I'd do it for their own good as well. Spoiling children does what the word says, it 'spoils' them."

"Well, that is what most people would do and for the same reasons. But let's examine the matter a little. There are several ways of sizing up this situation. We may consider the rights of the parents and the older children to reasonable quiet and the attitudes of the younger children toward these rights. So stated, we have strongly suggested an educational situation. The younger children either don't understand or don't appreciate or won't respect the rights of the others. Each of these failures is a matter within the realm of education. A diagnosis should accordingly be made to locate the exact defects, and the proper educational procedure followed to correct them. Am I right?"

"You may be right, but you haven't told us what to do. Would you punish the children or not?"

"Certainly not until I had made an educational diagnosis and not then unless I could see in reason that the proposed punishment promised to supply the needed educational stimulation called for in their particular cases."

"Don't you believe wrong-doing must be punished?"

"As you ask it, no. The sole reason the parent can properly have for punishing a child is the foreseen educative effect that is to follow."

"What about spoiling a child? Isn't it a real danger?"

"Yes, but it is brought about by bad education. I understand a spoiled child to be one who thinks his wish furnishes sufficient grounds for getting what he wishes and who is moreover disposed to make things uncomfortable till he gets it. Now both of these attitudes can come in only one way: he has tried them with such uniform success that they have been fixed in him. They can be removed only by reversing the process. He must learn by the action of satisfaction and annoyance that his wish is not sufficient, that others have rights which he must take into account, and that making himself a nuisance is not a socially satisfactory way to secure ends. It may take time and patience on the part of his elders for him to learn these things, but there is no other course available."

Educational diagnosis and treatment

"And what is the psychology of the procedure?"

"There are two possible ways of procedure: one is to attach annoyance to the children's wrong behavior, the other is to see that satisfaction attends the right. Of course both at times may be combined."

"You refer in the first to the use of punishment?"

"Yes, and it is best available when the annoyance will be attached uniquely to the wrong doing. Otherwise there is danger that wrong aversions may be built up, say to the mother for interfering, or to the home as a place where unpleasant things happen, or to the older sister for complaining, or to duty as a

Punishment and its limitations

disagreeable word that figures whenever pleasures are curtailed. It is this ambiguous effect of punishment, and indeed of all coercion, that makes it so unreliable an agency for moral betterment. If the attendant annoyance happens to be misplaced, mis-education takes place."

"The second possible procedure then is more satisfactory?"

"It promises better in every way, though it is less handy for the unthinking to apply than the 'shut-up-or-be-sent-to-bed' procedure."

"Do you recognize any proper place for coercion other than those already mentioned?"

"We didn't say explicitly, I believe, that coercion may at times be properly used to prevent the exercise of certain undesirable practices and consequently prevent the formation of undesirable habits. But even here a positive régime of building good interests instead is, if feasible, far more desirable."

"Are there then no other uses for coercion? None whatever?"

"Oh yes. Coercion may properly be used as an emergency measure to prevent damage to one's self or to others or to valuable property. In themselves these are not educational measures, though we can never forget that they have educative effects, usually mixed, some bad and some good."

"You seem then to count aversion always as an evil but sometimes as the least of the evils confronting one."

The conclusion

"I think it has always attendant evils. Usually these evils outweigh its good. Occasionally the reverse is true. The constant use of coercion, however, is a sign of bad teaching somewhere."

AN EXPERIMENT IN COÖPERATION

VI. Standards in Composition

JAMES F. HOSIC

Associate Professor of Education, Teachers College, Columbia University

Concerted attack on the problem of how to improve the speaking and writing of the children in the experimental schools brought us soon to the problem of standards. What constitutes good composition in a certain grade in school? What range of excellence may be expected? How does oral composition differ from written? These were questions that must be faced but with insufficient data for answer.

Composition, especially oral composition, is in fact a new subject in the elementary schools. "Language" or "English" has held the stage. Attention has too often been divided between exercises aimed at correctness in grammar and mechanics and development of vocabulary through analysis of poems or other literature. Witness the textbooks and the courses of study. The direct approach through expression of the pupil's own experience, as in the plans of Sheridan and Mahoney, is comparatively novel.

We were of the opinion, moreover, that the attempt to set up standards for ourselves would react most favorably on the work, giving the teachers a better grasp of it and deeper interest. We hoped to

measure our results in the end by published scales and make comparative studies, but this we afterward decided not to do for the sufficient reason that none of the scales available distinguished between composition as such and proof-reading. These we kept separate.

ORAL OR WRITTEN?

Since our method was to place oral composition first, both in time and in importance, we naturally leaned toward standards in speaking rather than in writing, but decided to collect examples of both. The teachers were asked to preserve from time to time the speeches of the children and also their written papers. In the earlier grades it was necessary for the teachers themselves to write out what the child had spoken, often from his dictation. In the middle and upper grades the pupils could do this for themselves. In some instances a stenographer was employed. In this way a collection of compositions was built up in several schools and the study of them began.

It was soon evident that, except possibly in case of the upper grades, there was no real need of setting up two sets of standards in composition. The pupils wrote as they spoke. (They were not permitted to write first, then memorize and speak—the sure road to bookish formality.) Besides, there was more immediate need of guidance for the practice of speaking, since this was first stressed, hence the decision was readily arrived at that all the schools should be asked to select sample compositions to serve as oral standards.

SELECTING THE STANDARDS

The enterprise proceeded *by schools*. Each school group needed to know its own state, what its pupils were doing. Each group would profit by the experience. To begin with the assumption that all schools should or could reach the same standards would have been a serious blunder; there is too much assurance that they can't and shouldn't. By organizing the work of each school separately we gained, moreover, the immeasurable advantage of variation in method and range in performance. Each person had a chance to make his maximum contribution. The individual was not lost in the crowd.

On certain items there was general agreement. We would choose narrative of experience as the type of composition. This, as has been explained, was the type which we depended upon to form the basic habits of good speaking—the sentence sense, holding to the point, etc. We would collect examples of the work as the pupils themselves left it, not as dressed up by the teacher. We would ignore the mechanics of writing, defined as all the new activities involved in putting speech on paper. The problem of mechanics would be met by means of a separate set of standards. We would judge merit with reference to the closing weeks of the grade.

The degrees of merit were to be as follows: Poor, Fair, Good, Excellent, and Superior. Fair was taken to mean that degree of merit which at least seventy-five per cent of the pupils could equal or excel by the end of the grade; Superior, that degree reached occasionally by pupils of extraordinary ability, often through treating a subject of unusual possibilities. The other degrees were to be relative to these. There was no marking in per cents or on a numerical scale. Particularly it was understood that compositions were to be selected as representing what the pupils

actually did, not what in some Utopia they might be expected to do. How hard it was to hold to this common-sense principle will be understood by all who have observed the inflated and over-ambitious aims in English which in courses of study are too commonly set up. The feeling of justice and satisfaction which resulted was, however, worth many times the effort required.

The administrative procedure followed in the different schools varied. Commonly the principal appointed a committee of five to prepare a bulletin giving notice of the compositions wanted, how they were to be selected, when handed in, and the like, and, when the material was at hand, he assisted in having the samples typewritten and the standards mimeographed. Hearing the compositions read proved superior as a means of reaching a judgment of merit to reading them oneself. All the committees testified to the value of the discussions of merit and demerit to those participating in them. The exchange of impression was greatly broadening and enlightening to everybody.

A SET OF SCHOOL STANDARDS

The following set of standards selected at random from among those collected in the early stages of the work will serve to illustrate. These, it should be said again, were intended, not to indicate a distant goal of achievement but what was actually happening at the time. The contrast with the ambitious literary efforts of exceptional children sometimes offered as examples of school work is startling enough not to require comment.

A glance at these standards is sufficient to discover the possibility of improvement. For one thing the difference in merit between neighboring samples is not equally obvious. There is, moreover, no indication as to why the committee considered a certain composition good, say, but not excellent, nor why it was an advance over the good composition of the preceding grade. That the pupils of the upper classes would eventually show greater superiority over the earlier was of course expected. This was a satisfactory beginning, nevertheless, and provided some useful material for study even by the pupils themselves, who suggested changes, some of which were clearly desirable. From several such collections, as later revised, an annotated scale for the whole city was finally derived.

ORAL COMPOSITION STANDARDS OF THE X———— SCHOOL

GRADE 1

Superior

Our kitty's name is Browny. She plays with my little brother all day. When I come home from school I roll a ball on the floor. Kitty runs after it. She catches it in her mouth. Then she lets it go again and it rolls back to me.

Excellent

One day I found a bicycle. It was under some papers in the alley. I brought it home. When I come home from school, I change my clothes and go riding on the bicycle.

Good

My doll's name is Mildred. She has blue eyes and brown hair. She is a big doll. When I come home from school I play with her.

Fair

Yesterday my brother and I went out. We played tag.

GRADE 2

Superior

My grandpa brought a cat home. My mother gave it some milk in a saucer. She put it by my bed. This morning when I went to get up, I stepped in the dish and broke it.

Excellent

The cat next door looks like a squirrel. He runs like one. He can go faster than a squirrel.

Good

Our bird used to open the cage and jump out. He opened it with his foot. He used to fly into the parlor. His bathtub was on the window sill. He flew into it. When he was flying around he broke his leg with a piece of string.

Fair

Our dog is a Scotch terrior. He is black and white. All he does is bite my hair.

Poor

We had a little dog. It was named Trixie. It died.

GRADE 3

Superior

FISHING

All of a sudden I felt a terrible jerk on my rod. I saw flopping alongside of the boat a great big Black Bass. "Hey, Dad!" I yelled, "help me, help!" My father got up to get the rod, but the oar of the boat hit him in the chest. My fish got away. That was the end of my fishing for the rest of the week.

Excellent

A FISHING TRIP

I caught a fish. Do you know where I caught it? I caught it in the fish bowl. It was a gold fish.

Good

A GOOD LAUGH

Last Sunday we went to a show. We saw a coach with four dogs pulling. Inside sat a monkey. When the coach stopped the monkey came out. When the show was over, the monkey went up with the curtain. Everybody had a good laugh.

Fair

OUR CAT

We have a cat. I named him Bobby. He is black. He has one white whisker and one gray paw. He comes in bed with me every morning.

Poor

We had a ball game. We had sides. Our side lost.

GRADE 4

Superior

A GOOD LAUGH

One night my father and mother went to a party. My father dressed so that he had two fronts and not any back. He walked frontwards and backwards and nobody knew which side his face was on. Everyone had a good laugh and he surely took the prize.

Excellent

A PUNISHMENT THAT I DESERVED

My brother and I had a fight. My mother told me that I could not have a fight. But I did so. My brother won the fight. I lost. I got hurt in the fight. My mother saw me crying and said, "That is just what you deserved, because I told you not to fight."

Good

A GOOD LAUGH

One Hallowe'en we had a party. We put a little flour on each chair. We set down to supper, and when we got up, to the surprise of the guests they had flour on the back of them. We all had a good laugh. The reason that we put flour on the chairs is because it comes off easy.

Fair

A FUNNY EXPERIENCE

One afternoon when I came home from school I saw our duck with a live mouse. I was watching the duck and before I knew it the duck swallowed the mouse and that was the end of the mouse.

Poor

THE LOST CENT

I went down to my aunt's house. And I only had 14 cents with me. I was down at my aunt's house. I lost two of my cents. I could not go home till I found them. Then I found the two of my cents. I went home and had some good fun with my dog.

GRADE 5

Superior

TEACHING HIM A LESSON

It was a cold winter night when my brother decided to put on his warm bedroom slippers instead of his cold winter leather shoes. He put them on and sat down to read. He was not seated

long before he heard our big collie dog bark. He said without looking up, "Be quiet Nelly." But Nelly would not stop, because where were the shoes? No other place but in the center of the room. She pulled one shoe after the other in front of my brother, and barked still louder, as if to say, "Put your shoes away." My brother got up to scold her, but when he saw the shoes he laughed and said, "Well, Nell, you know more than I do."

Excellent

A SCARE

My! but I was frightened when that lady came out with a whip. It was on Hallowe'en and I was putting soap on the door of an apartment building when all at once a lady came out with a buggy-whip. When I saw her I ran down the stairs. Say! she was mad. You bet I never went to that place again.

Good

AN ACCIDENT

I thought my father would be killed. Last night my father took our car out of the garage. He wanted to save his battery so he cranked it. He had the lever in third and our Buick started backwards. There was a garage in back of ours. Our car went through its door. It did not hurt the other man's car but ours has a big dent in the back.

Fair

AN AWFUL SCARE

One day, when we were at the beach, my brother asked me if I wanted to get on his back and he would swim. I got on his back and he began to swim. When we were out deep he went under and threw me off. When I came up, I said that I would never go swimming with him again, and I never did.

Poor

A QUEER THING I BELIEVE

When I was small I used to believe in Santa Claus. I thought he came in the chimney and fixed everything for us, but still I was a little puzzled because if he came in the chimney, his beard wouldn't be white, it would be black when he got in.

GRADE 6

Superior

QUEER THINGS I USED TO THINK

When I was small, a boy told me that if I pulled a horse's hair and put it in water for two days it would turn into a two-headed snake. One day I was watching some horses when I thought of what the boy had told me. Then I went up to one of the horses and pulled a hair out of his tail. Then I went home and put it in a pan of water. Two days later I looked in the pan of water and much to my surprise it was still a horse's hair.

Excellent

QUEER THINGS I USED TO THINK

When I was small I was very fond of balloons. One day my father bought me one. When I was playing with it, the string broke, and up in the air it went. I was told by a boy that it would land in China, or Japan. So when I saw it go up I said, "Send my love to the boys in Japan."

Good

SANTA CLAUS IS GONE

Last year I lost faith in Santa Claus. That Christmas I was not very tired but I had to go to bed early. I did not go to sleep, I was wondering why Mother did not go to bed. I was going to find out. I got up and went to the dining-room and there I found her trimming the tree. I never believed in Santa Claus again.

Fair

A GIFT FOR CHRISTMAS

When I was small I asked for a sled. Christmas came and I got the sled. It started to snow. I thought I would take a slide. Instead of sliding on the sled I slid on my nose. I told my mother I would not have another sled as long as I live.

Poor

QUEER THINGS I USED TO THINK

I used to think that there was bogymans. When I was going to the store I would walk behind a man. The big boys were the ones that said there was bogymans.

One day my mother said there was no such things.

GRADE 7

Superior

QUEER THINGS I USED TO THINK

When I was small I used to think that if I stuck a dead dog with a pin he would jump up. The next day I saw a dog lying asleep on the street. I jabbed a pin into the dog. I jabbed it in with all my might because I wanted him to wake up and get alive. He got alive all right. The first thing I knew I was minus a part of my trousers.

Excellent

AN EMBARRASSING MOMENT

One day in school my teacher was explaining a sentence to me. I was anxious to return to my seat so I retreated backwards toward it. Instead of sitting in my seat I sat down with the girl behind me! Seeing my mistake it did not take me long to return to my seat. Shouts of laughter greeted me on every side.

Good

AN UNUSUAL PRESENT

I have not received very many unusual presents but the one I have enjoyed most was the one that I received when I was in the country. We had not been in the country a very long time when one day my father said, "I am going away today and when I come home I will have a present for you."

I was more than overjoyed and waited very patiently until my father came home. When I saw him coming I ran to meet him. He carried under his arm a large wooden box. To my surprise when he opened the box I saw a cute little black pig. I never enjoyed any present as well as I did this one.

Fair

TOO MUCH WATER

It had rained the night before this mishap. My mother had a tub in the yard to catch the water for her rubber plant. A man was coming in the yard. I walked backward and sat in the tub of water. I began to cry, but seeing it was of no use I stopped and went into the basement to my mother. I started to cry again. She said I would have to stand in the sun till my dress dried because she did not have time to change it. Nobody knows how miserable it is to be wet.

Poor

ALMOST AN ACCIDENT

One day when I was about three years old, my mother was entertaining a literary club. In the midst of the program I started down stairs. I slipped and fell! My mother rushed to the scene of accident! Everybody held their breath! But I escaped without injury.

GRADE 8

Superior

A BAKING EXPERIENCE

I have always been teased at home about my cooking. Every time I baked or cooked anything Daddy was going to have his life insured.

One afternoon I was home alone and, as I had nothing to do, I decided to bake bran muffins. I went into the kitchen, put on a large apron and began to mix my muffins. How carefully I stirred them and how carefully I measured the ingredients! As I mixed those muffins I thought of the big, brown, fluffy muffins I would surprise the family with.

I put them into the oven and busied myself while they baked. Every few minutes I would look at them. They had been baking fifteen minutes and had not even begun to rise.

I began to worry. What was the matter with them? I was sure I had put soda in the mixture.

Maybe the oven was not hot enough, so I turned up the gas. I waited ten more minutes and still they did not rise.

Maybe they were not supposed to rise. I left them in until I was sure they must be done. How disappointed I was when I took them from the oven! They were very heavy and when I broke one open, lo and behold! it was soggy. I tasted it and it had a queer salty taste. Then I knew something was wrong. I knew I had the correct measurements, so I examined the ingredients. I looked at the flour, then at the milk, and I found them both perfect. Then I looked at the baking soda. I looked at the package and to my astonishment "Cream of Tartar" stood out in big black letters. So that was it! I had used cream of tartar instead of soda.

What was I to do with them? I tried to feed them to the dog, but he refused to ruin his health. I wasn't going to let the family tease me, so I emptied the dozen of muffins into the garbage can.

I cleaned up the mess in the kitchen, and when mother came home her kitchen was as she had left it. To this day the family never found out about those muffins. Between the dog and myself it will always remain a secret.

Excellent

DON'T COUNT YOUR CHICKENS BEFORE THEY'RE HATCHED

When I was small I considered a quarter a great amount of money. One day my father gave me a quarter for taking some weeds out of the front lawn. I thought myself a millionaire. I could see myself in an ice-cream parlor with a soda and a bag of candy. I could also see myself watching a thrilling picture at the movies. I could do all this then on a quarter, as things weren't so expensive.

I went merrily on my way, each minute putting my hand in my pocket to see if it was still there. When I was in front of the show I put my hand in my pocket once again to draw the money out. But alas! the quarter was gone. My dreams all vanished. I examined my pocket only to find a hole in one corner. I went home tearfully.

"I thought you were going to the show," said Mother.

"So I was," said I, then I burst into tears and poured out my story of woe.

"Well," said Mother, trying to make me stop crying, "that will teach you a lesson, never to count your chickens before they're hatched."

Good

HASTE MAKES WASTE

One day the teacher kept me and some other boys after school for looking out of the window at the trains pass on seventy-fifth street. After she had kept us about a half hour she said, "Now you may go home if you are through looking at the trains." We said we were. We started to go home and of course were in a hurry after staying so long.

When we got into the hall we thought we would make more time if we slid down the railing. We had gotten down two landings all right so thought we could make the next. I looked down the hall and saw Mr. B——— coming towards us at the other end of the hall. I thought he wouldn't see me so started to slide. When I was about half way down I heard his voice. He said, "Come back here and try that over." There was nothing else to do but go back. When I got back he said, "Go up stairs and walk down." If I had walked down in the first place I would have saved time. So I experienced the saying, "Haste Makes Waste."

Fair

ALL THAT GLITTERS IS NOT GOLD

One day mother said, "Darling, you will have to go to the store."

"All right," I replied.

As I was walking to the store unconcerned and not thinking of anything, I happened to look up, and behold! I saw a beautiful shiny quarter lying on the sidewalk. I ran to get it and I was thinking of the things I could buy with a quarter. But, much to my surprise, I saw that it was nothing but a shiny piece of tin. After that I learned the proverb, "All that glitters is not gold."

Poor

DO NOT COUNT YOUR CHICKENS BEFORE THEY ARE HATCHED

One Saturday morning while I was sitting on the back porch a lady asked me if I would cut her grass. I said, yes. I got finished about twelve o'clock. I then went home for dinner. After dinner I was going to the store, when I saw some boy friends playing football. They asked me if I wanted to play. I said, yes. We played about an hour. I then said, all of you come up to the store with me and I will buy you some candy and pop. We went into the drug store. All of the boys wanted pop and candy. I wanted soda and candy. I put my hand into my pocket to get my fifty cents, but alas it was gone, and my hopes were shattered.

PROGRESSIVE METHODS IN PUBLIC SCHOOL KINDERGARTENS

HELEN B. ROYCE

Kindergarten Department, Norwich, Connecticut

"Of course it is wonderful, but entirely out of the question for us. We haven't the equipment! We haven't the room! Think of our large classes, with only two teachers at the most! It is of no use to try this sort of work in public schools. Where would we get the materials?" So the comments ran as hundreds of teachers observed the work at Horace Mann School during the recent summer session. The writer was sorely tempted to break the rule of silence in her eagerness to refute such statements. She therefore welcomes this opportunity of assuring her fellow teachers that this type of work can be done successfully—even under adverse conditions—in public schools, provided the will to do it is there.

Speaking from personal experience she will endeavor to show how it has been done in two kindergartens, at least, with the hope that other teachers may be encouraged to try the methods they have admired but felt were not possible for them.

Observers do appreciate, to some extent, the value of this type of work, call it project, free, or socialized, as you will. But one can never wholly realize its inestimable worth until one has put it into practice and realized through personal experience its true values. A comparison of results with those attained under former methods will show a big gain as regards both the children and the teacher, whose "rejuvenation" naturally reacts to the good of all concerned. As the work goes on, one discovers unsuspected powers and abilities in the small pupils, and realizes how other methods have limited their development and growth—in more ways than one.

The kindergartens of which I shall speak were housed in ordinary public school rooms, furnished with the usual chairs, square piano, and long tables. (These old style eight-foot tables however, can easily be cut in half.)

The room used by the larger class is only twenty by thirty feet in size and has to yield parts of its inadequate floor space to wardrobe cupboards holding materials and supplies.

The kindergartner has charge, unassisted, of a group not exceeding thirty children, each morning. Her afternoon work calls her to another building, on the opposite side of the city, where, with the help of an untrained assistant, she endeavors to meet the needs of a class that may number forty-five. In spite of these conditions, successful project work has been done for the past two or three years.

Long ago the writer, at her own expense, began to add to her equipment books, puzzles, nature materials, dolls, small toys, and toy animals. The dolls and animals were well worth the cost, as they proved of great value in stimulating creative work with the small Froebelian blocks then in use. Later the kindergarten was equipped with the enlarged fifth and sixth gifts in bulk, but we have never attained the blessing of the Patty Hill floor blocks. With the enlarged blocks, however, came a need for larger dolls and toys that should be of proportionate size.

For years we tried to secure, as part of our annual supplies, these "outside" materials or money for their purchase. As the constant dripping wears away the stone, so our continued pleas for this necessary equipment finally overcame opposition. Every kindergartner in town now may spend ten dollars each year for toys, dolls, or whatever is needed outside of the antiquated supplies still listed in kindergarten catalogues. This is not a munificent sum but it can be made to go a long way, and we hope, ere long, the first grade teachers will similarly be encouraged to add to their stock of vital materials. Last year, at one school, the money was spent for a large grass rug (secured at a bargain price). This rug made available the use of an otherwise impossible floor for building purposes, games, and dramatizations. It has been a great help, and not the least in the way when not in use. It hangs, rolled up, under the blackboard ledge, supported by cloth straps finished with brass rings which slip readily over the hooks there provided. The children take entire charge of the rug and handle it easily.

We keep the enlarged blocks in painted wooden boxes, fitted with casters. These are convenient, serviceable, and easily moved.

Floor space being so limited, it is impossible to leave incomplete building projects from day to day. Therefore, we secured a wooden top for the sand table, which offers a considerable amount of space for individual or group building projects. This top is easily handled and when not needed takes up very little space, as it rests upright against the wall. By its use, buildings may be left as long as desirable and still not be in the way. Among projects initiated and carried out by the children may be mentioned the building of a mill—which led to the addition of a freight platform, train, track, tunnel, and houses for employees, with the various workmen concerned, and the construction of a complete fire station, fully equipped. Both these projects lasted two weeks, growing from day to day, and would have been out of the question had no space other than the floor been available.

The Kindergarten Children Visit the Deer in the Park

Cupboards for the children's unfinished individual projects, such as aeroplanes, hammocks and the like, may be materialized from egg or orange boxes placed on end, if one has room to accommodate them. The children can make and hang curtains. But nothing is quite so satisfactory as the permanent low cupboards, which *we* are just securing after years of effort. Persistency pays!

Our work benches were old kitchen tables. By sawing off the legs these were easily made of the right height. Low shelves made of laths found in the school cellar provide space under the tables for the larger pieces of wood. Small pieces are kept in a wooden cracker box. We have

not yet been successful in having good, soft, workable wood provided for us, but that has not prevented the work. A visit to several grocers will result in securing empty boxes for school use. When one of these has been changed into a cart, bird house, or other toy, let the youngster who made it visit the grocer and display the metamorphosis of his box, and the grocer's interest in saving the best wood among his discarded boxes will be assured.

Andrew Begins a Bird House
Laurel Hill Kindergarten, Norwich, Conn.

Candy stores have shallow wooden boxes, not stout enough for every purpose but available for many. They make splendid doll carriage, wagon, and wheelbarrow bodies. The covers are good for table tops. Split into narrow strips (easily done with a knife), the wood is just right for ladders, arms of doll chairs, etc. The sides of boxes are splendid for aeroplane wings, and a section with dove-tailed end makes a most attractive back for a doll's chair. Cigar boxes split too easily to be of much use, but the boxes as they are make good wagon bodies, doll bedsteads, and nail receptacles. Our boys put in partitions and have very serviceable boxes with places for six sizes of nails. Spools are useful, particularly for doll house furniture. Ask your dressmaker to save them. The children will bring them in, too. It is possible to use the ends for wheels, but they are difficult to saw. We use all sizes of wooden button molds for wheels and other purposes. An old wooden curtain pole sawed into half-inch sections provides excellent wheels for small carts, ladder trucks, and autos.

For larger cart wheels it may be possible to secure discarded bobbins from a mill. Our manual training department contributed odd pieces of wood. Every carpenter shop has a pile of trimmings and waste wood containing just the sort of pieces needed for chair and table legs, cart handles, and similar purposes. The friendly foreman is glad to tie up a bundle or two for the children's use.

Our first request for tools met with opposition. The "powers that be" could not see what part tools had to play in the education of little children. We were sufficiently convinced of their need and value to make the initial purchase ourselves. A beginning can be made with a hammer, saw, and some nails. But let it be a good saw. Do not buy cheap tools. They are a handicap to an expert workman and almost of no use to a beginner.

After several months had elapsed, a glimpse of the kindergarten workshop with children busy therein was sufficient proof of the value of this style of equipment and now every kindergartner in town may have a set of good tools for the asking. Our set is not elaborate. It has grown from year to year and comprises several saws and hammers, a plane, a small vise, screw driver, awl, nail set, brace and several bits, tack puller, measure, compass, sand paper, screws, and nails of various sizes. The vise is only of use in holding the

smaller pieces of wood. In sawing boards or larger strips, the children rest wood on a box. They are delighted to help each other by sitting on or otherwise steadying the board to be sawed.

We are careful to establish standards of good workmanship. The children learn to choose nails with reference to their suitability, to be economical of all materials, and to use tools and brush in proper manner. Do not be afraid of paint! If children have neither apron nor overalls, this need will stimulate a cutting and sewing project of apron making. A few drops of turpentine poured on fingers will quickly remove all traces of paint, which even an adult acquires when wielding the brush. We have used ten-cent paint but are to try an inexpensive wood dye this year.

The necessity of using box wood and other waste material has some advantages. The children are far more likely to continue their toy making at home if they learn the possibilities in the readily obtained materials. But not for one moment do we cease striving to have suitable wood provided—to use in conjunction with cast off pieces. Just as good paper is provided to insure every advantage to the pupil as he draws or writes, so should adequate constructive materials be given to him.

All sorts of cardboard boxes will prove useful. In visiting different stores one learns to what extent paper cartons have replaced wooden containers. These, particularly the heavier ones, make splendid doll houses, barns, garages and other buildings. Windows are easily cut with a jack knife, by both boys and girls, and the ease with which the cardboard boxes may be obtained makes their use popular. Pieces of old shoe leather make admirable hinges for the barn door.

In connection with this work do not be discouraged if some children do considerable observing before initiating any projects. Some of the most original, thoughtful construction in one class was the work of a boy who seemed for a long time wholly lacking in initiative. His last toy, a one-man trolley car with twelve double seats, trolley arms, cash box and other fittings, was a project of six weeks' duration and then not completed when school closed.

Hammock, hat, bag, and rug weaving can successfully be carried on with home-made looms. Ours were originally pad backs, donated by the upper grade children. Two of these pieces of cardboard may be joined with brass fasteners, for larger looms. Some of the children cut their own notches. Last year we found it possible to have inexpensive beaver-board hammock frames prepared at a carpenter shop. These are, of course, more durable, but the weaving on the cardboard looms is quite as successful and satisfactory. The use of cardboard permits the making of looms of any size and shape desired. Expensive weaving materials are unnecessary. Though we have some cotton roving, we prefer for nearly all purposes the easily obtainable strips of cloth. The children bring in pieces of their dresses and suits; Mothers' Clubs or Parent-Teacher Associations gladly donate scraps. The children like to cut the inch-wide strips (on a fold or stripe) and sew some of the strips together, learning the importance of fastening the thread well each time. But we do not insist on their preparation of all such material. If much white cloth is donated, it is an easy matter, with Twink or Rit, to change it into attractive and serviceable colors. Heavy twine can be used for stringing looms, but cotton warp is inexpensive.

New cloth for aprons, costumes, and doll dresses is not available, but clean cast-off garments often furnish pieces sufficiently large for such uses.

Lacking oil-cloth or boards for clay modeling, squares of heavy paper may be used to protect tables, or perhaps your storeroom will reveal a supply of the once popular slates, as did ours.

We asked our manual training department to make teeter boards for us. Even a small room will accommodate one if the board is removable so that it can rest upright against the wall. And it serves other purposes, too! It makes a splendid bridge for the use of the Three Billy Goats Gruff, and, properly placed and braced, a usable slide. If you can not hang swing ropes from your ceiling, use a door frame. The children love being in motion without exertion (the initial stage of the auto enthusiast perhaps), and after a period of strenuous application will run to the swing for a moment or two of relaxation. Through use of the swing one exceedingly timid boy gained courage which seemed to free initiative and ability previously not functioning.

Have you wanted a garden and bewailed the lack of space, or tools to cultivate it? Even a three by twelve-foot plot will permit of a class garden, in the planting and care of which every child may share, even though small groups work at one time rather than the class as a whole. The children will bring spade, rake, and hoe. Our garden furnished two hundred radishes and about forty medium-sized heads of lettuce last spring; we anticipated in the fall the joy of cosmos and marigold blossoms, a small yield of potatoes for ourselves, and sun-flower seeds for the birds. If you have no out-door space, use your window boxes for seed planting, even though the resulting growth may be less decorative than the plants usually found therein. Ask your community or other clubs to save one evening's discard of the waxed-paper cups used so generously at such places. These, with a hole punched for drainage, make excellent flower pots, continuously serviceable for weeks.

School orchestras may be organized even though ready-made instruments are lacking. Small tin kettle covers make good cymbals; a round hat or oatmeal box is quickly converted into a drum; clappers are easily fashioned from a shingle; a ten-cent rattle will furnish several bells which can be fastened singly to sticks, and small pebbles in a securely closed box are effective rattles.

Lack of space for keeping materials and partially completed articles out of sight may deter the extremely orderly teacher from introducing project work. We use window sills, desk, and piano at times as repositories for all sorts of things in the making. But is not a workshop bound to show signs of its activities and its workmen, and would any good teacher sacrifice such wonderful opportunities for development in her desire to preserve a spic and span room? The children "tidy up." They are wholly responsible for cleaning up their own scraps, sawdust, etc., and for putting away materials.

Perhaps you are saying "Anyway, we can never keep records. It is utterly impossible with so many children." Nevertheless, fairly complete records may be kept even with large classes.

Hectographing individual record cards takes much time. We used them, each covering twenty school days, when our enrollment was small. It certainly is easier

to keep track of the children's activities in a small class. When numbers increased, we gave up the cards but not the recording, simply using a blank book, arranged for the purpose, instead. One set of headings was written at top of second and next to last pages. By cutting an inch from the top of the intervening sheets, one heading served for all and preparation of individual cards was thus avoided. (We do not like the book as well as the cards but it does save time for the busy teacher). It is not always possible to record every child's occupations during the period of self-initiated work, but it is possible to make a note of new developments and to see what is going on, for later recording, even with a large class. For our record of social and moral traits a book with headings in column at the left side of second page, with remaining sheets cut to show headings, gave ample space for data concerning each child.

Records are so vital, in this type of work especially, it is better to let something else go than to attempt to do without them.

To the teachers who are organizing their rooms on a social basis for the first time, may I suggest the wisdom of proceeding slowly? Evolution is safer than revolution. Win the approval and support of principal and supervisor by showing them what this sort of curriculum does for the children. Do not be afraid to advertise its good points. Many of us are critical of values until we see results. If you can not get what you want and need, at once, do not give up wanting it. Persist in the determination to give your pupils the best educational opportunities and eventually you will succeed.

There is always a possible usable substitute for the unattainable, if one only searches. It is not so much the possession of adequate materials and environment as the determination to put this method into use, against any odds, that brings results. "Where there's a will there's a way." No matter what obstacles have to be overcome, the results achieved will more than repay the teacher's efforts. Good results do come, in public schools, even though conditions are not ideal. As an instance of development the following record may be of interest.

When Edwin came to kindergarten he was selfish, lazy, unwilling to coöperate, untidy in work and person, unimaginative, dependent, and interested solely in play apparatus. His early records show many play activities, each of brief duration, in the one period daily. Compare these with the later records of sustained interest in the chosen task through nearly every period, which resulted during the year in the following completed projects: a freight boat, a motor boat, two wheelbarrows, ladder truck with two ladders, cart, two automobiles, three bird houses, crocheted reins, and a doll hammock. In addition he repaired the kindergarten doll furniture and helped many playmates in their toy making. He developed marked initiative, became a leader, generous and extremely helpful (at everyone's call for assistance), neat and careful, imaginative, and very industrious, as his list of toys shows. The power of the project in sustained application was surely proven. There, as in many instances that might be given, were "purposeful planning, execution, and judgment."

Little Angelo came at four years of age, destructive, quarrelsome, with no respect for property or person, the victim of an unrestrained temper. The first four weeks he demanded rather more than his share

of the teacher's attention. But soon he succumbed to the lure of "invitational" material. With the making of his first project—two sticks crossed, nailed, and pronounced an aeroplane—Angelo began to change for the better. The joy of creating and owning something made him respect other's work and property. Before long, as he became master, in a small way, of tools and materials, he became master also of himself, and the outbursts of temper ceased altogether.

A Good Drying Day
Hobart Avenue School, Norwich, Conn.

Ironing Day
Hobart Avenue School, Norwich, Conn.

If one could only take and display character photos of children before and after a year of life in the socially organized kindergarten, the most skeptical of conservatives would have to grant the value of such schooling. The finished projects tell much, but sometimes the crudest, simplest article made by one child represents more real growth than the elaborate toy of another.

The less tangible results are the vital ones, but, in the writer's opinion, no other methods ever gave such opportunities for growth, mental and physical as well as moral, as those now governing the practice in America's most progressive schools.

A few of the children's projects are shown in the accompanying illustrations made from photographs. Others have included the following: Four pieces of fire apparatus were built following a trip to a fire station. During the process of construction, two of the boys made two trips each—on their own initiative, to study engine and chemical wagon more closely. The doll furniture is largely the work of girls, who enter just as enthusiastically into the carpentry work as the boys. A child's chair was made a year and a half ago by a colored boy for his baby brother, and is still in commission. Clay candlesticks did duty at several Parent-Teacher meetings. An auto was made in October, improved in November, brought back in January for a new license, and in April for repairs and paint.

The children wash and iron the doll clothes. Our Sterno not only heats the irons but cooks apple-sauce and jelly for winter treats. A fair in behalf of the Chinese Famine Sufferers instigated all sorts of individual and group projects.

THE CLEARING HOUSE

A LESSON IN CONSTRUCTION WORK

Teacher:—Let us have a little exhibit this afternoon of the booklets. The first row carry yours up and place them on the blackboard. Next row follow quickly.

(All booklets placed on blackboards.)

T: Well, what do you think of them? Sylvia, what do you think of them?

Sylvia: I think they are awfully pretty.

T: Henry, do you like them?

P: Yes, ma'am.

Gordon: I like them very well, but I think they would look better if I took mine away.

T: Show us yours.

(Pupil goes to blackboard and points out his booklet.)

P: That's the best one there.

T: Do you like Gordon's, children? Yes, I don't think Gordon's hurts our exhibit at all.

P: It makes it better.

Tom: Mine isn't good.

T: What's the matter with it?

Tom: It is lopsided.

T: Put on just a little bit crooked. All right. Sit down, class. We will take a little time to talk about these now. What are you going to use yours for, ————————?

P: To put kodak pictures in.

T: That is what we had planned to use them for. I wonder how many of these booklets are going to leave Chicago this summer. Where is yours going, Sylvia?

Sylvia: Mine is going to Michigan.

P: Niagara Falls.

P: Toronto.

P: California.

T: Where is yours going?

P: Florida.

T: And yours?

P: Montana.

T: Nearly all going out of town, aren't they? How are you going to carry yours?

P: I am going to have an envelope and a suitcase.

T: What is apt to happen to these booklets if we carry them so far?

P: They would get dirty.

T: What would you suggest making for them? You want them to look just as pretty and clean when you bring them back in September as they do now. What shall we do?

P: Make an envelope.

T: How many think that is a good idea? Yes. When you bring them back to your relatives in September and you open up your little books to show your snapshots, they will be nice and clean. What sort of envelope would you suggest? The envelope will have to protect the book, won't it? What kind of paper shall we use?

Elizabeth: Strong paper.

T: Why strong?

P: So it won't tear easily.

T: Is that true, class?

Class: Yes.

T: What else can you say about that paper?

P: Dark, so it won't get soiled.

T: Is that true?

P: If it falls into some water it might dye the book.

T: You mustn't let it fall into the water. I wonder if somebody could go to the cupboard and find some paper that is strong and that is dark. Those are the two things you said it must be, Stanley.

(Pupil goes to cupboard and selects blue paper.)

T: What do you think of this?

Class: No.

Elsie: I think it is a little bit too light.

T: Well, see if you find a piece that you like better. (Pupil selects brown paper.)

T: How many of you like this blue paper?

Who prefers the brown? The browns have it.

P: Why can't we have what we want?

T: Suppose somebody wanted purple, why couldn't he have that? Remember I told these children to go to the cupboard and pick out the paper that would suit the purpose best. What shape envelope should we have?

Class: Square.

T: Why?

Class: Because our books are square.

T: Yes. What size?

Tom: Four inches square.

Elizabeth: Five.

T: What do you say?

P: Four and a half.

T: What do you say?

P: Five inches.

T: Yes, so there will be an inch on each side of the envelope. Why won't a four-inch envelope suit?

P: Because you would have to tug to get the book out.

T: What about six inches?

P: Too big.

T: What about five inches?

Class: Just right.

T: How many would like a five-inch envelope? Yes, I think that would be best. It would give it just room enough. How much paper will we need?

P: A six-inch square.

T: Just think. How much paper do we need to make our envelope five inches square?

P: Ten inches square.

Gordon: Eleven inches square.

P: You would have to have something to turn over.

Wallace: Six by seven inches. Then you will have to turn over a flap.

T: Six by seven inches. Would that make our five-inch square envelope? Somebody isn't thinking.

Elizabeth: Eleven inches long and eight inches wide.

T: That is pretty good. Why eleven inches long? How much do we need from there to there?

P: Five inches.

T: Correct. How much from there to there?

P: Six inches.

T: Why?

P: If you are going to make your envelope a square———

T: But that doesn't allow for what?

P: The flap.

T: How much do we want for the flap?

P: A half-inch.

T: Yes, that would be enough. Would you like a half-inch?

P: Half an inch at the top and half an inch at the bottom.

T: Do you need a flap at the bottom?

P: No, ma'am, but you do at the sides.

T: What are we going to have down here at the bottom?

P: A crease, a fold.

T: Yes, a fold. Well, how much of a flap? Ten inches for the envelope and one inch for the flap. That would make how much?

Class: Eleven inches.

T: Now how wide should our paper be?

P: Seven inches.

T: Why?

P: Because five inches across the envelope and an inch on each side for the flap.

T: That would be all right, but I am wondering if we could change that and save a little paper.

Joseph: A half-inch.

T: Do you think that is better, Lyle?

Lyle: Yes. (Brown paper passed to class.)

T: Take your brown paper and cut an oblong—how long?

Class: Eleven inches.

T: And how wide?

Class: Six inches.

T: Yes. Children we will have to finish these on Monday. We cannot go on today. Who knows how to go ahead and finish the whole thing? We all ought to. We will have to wait until Monday, though.

MY PROJECT-PROBLEM

My children were cultivating a bad habit of selecting books to read that were uneducative and very trashy. The majority of the children were Italians, of the extremely poor type, who were unable to buy good books for their own use and were therefore in the habit of borrowing books without any opportunity for selection. This question arose in my mind, "What must I do to interest these children in reading better books?"

One day while we were out playing on the school ground, our attention was turned to an injured bird. Immediately we decided that we would care for it until it was well. Then little voices said, "It is a sparrow," others, "It is a wren." Of course I was asked, "What kind of a bird is it?"

I had a number of bird books of my own in the room and knew the children would be unable to find the necessary material to work on at home, so I asked them this question, "Can't you find out what kind of bird it is by looking it up in my reference books?" It was impossible to get those children out for the rest of the recess period, for each wanted to read about birds.

A discussion soon followed and through our discussion and reading matter we decided that the bird was a wren. Our bird study became in earnest, for we learned about the habits of birds, their plans of building nests, their choice of places for nests, how to recognize them by their singing or chirrup, the value of birds, whether or not they were useful or destructive, and, last, but not least, how to defend our birds.

Lively interest was felt in the reading and composition writing which followed. Then building of bird-houses began, and the making of clippings from magazines and papers.

Soon the books on my shelves had been read and the children began to ask for more. The big question came up, "Can't we give an entertainment and raise some money to buy more books?" This was the beginning of our plan for a school library.

Our entertainment was given. All grades from the first to the ninth became interested in it. Each grade contributed toward the performance. I gave the children books and they selected a play of their own, revising parts of it with my assistance. We had a free orchestra, sold ice cream and candy, and charged admission to the entertainment. From this we planned our arithmetic lessons, finding out the amount received, expenditure, and gain. The pupils were all anxious to know how many books we could buy with the proceeds. We worked this out by considering the various costs of the books. Here is where our long and short division problems came into action.

Then after the buying of books we had an excellent chance to find the average cost of books, using comparison, addition, multiplication, etc.

We did not forget our birds in winter time, for crumbs of food were saved and placed on a board fastened on the window sill, which served as a tray. We brought from home suet and bones with little bits of meat clinging to them and suspended these in a tree where they could plainly be seen by the children.

Snowy weather came. One of the boys constructed a sled with sails and gave it to me. Then other boys began to make other things. Help was received through a book on inventions and constructions which they discovered in our new library. The sleds were used on the school ground, where much pleasure was derived from them, as well as more knowledge of measurements, distance, and direction.

Soon the school board became interested and gave us a splendidly equipped playground, including swings, see-saws, giant stride, sliding boards, and a game of volley ball.

ANNA SEARFOSS

AS REPORTED

SECOND ANNUAL MEETING OF THE NATIONAL CONFERENCE ON EDUCATIONAL METHOD, CHICAGO, ILLINOIS, FEBRUARY 28 AND MARCH 1, 1922

PROGRAM

First Session, Tuesday, February 28, 2 p.m.

Pine Room, Stratford Hotel

1. THE PRESENT STATUS, James F. Hosic, Associate Professor of Education, Teachers College, Columbia University.
2. SUPERVISION WITHOUT A SUPERVISOR, T. W. Gosling, Superintendent of Schools, Madison, Wisconsin.
3. PROJECTS IN THE TRAINING SCHOOL, E. A. Hotchkiss, Principal of the Teacher Training School, Kansas City, Missouri.
4. CRITERIA OF PROJECT TEACHING, Bessie Bacon Goodrich, Assistant Superintendent of Schools, and Raymond Franzen, Director of Measurements, Des Moines, Iowa.

Second Session, Wednesday, March 1, 9:30 a.m.

Fullerton Hall, The Art Institute

1. THE NEXT STEPS IN DEVELOPING MORE EFFECTIVE METHODS OF SUPERVISION, Elizabeth Hall, Assistant Superintendent of Schools, Minneapolis, Minnesota.
2. METHOD AND CURRICULUM, William H. Kilpatrick, Professor of Education, Teachers College, Columbia University.
3. A NEW VIEW OF TEACHER RATING, Stuart A. Courtis, Director of Instruction, Teacher Training and Research, Detroit, Michigan.
4. POSSIBILITIES OF THE PROJECT METHOD IN THE ORDINARY CLASSROOM, Fred M. Hunter, Superintendent of Schools, Oakland, California.

THE STUDY OF CURRENT EVENTS IN BOISE

A good example of how the modern school turns important happenings to good account is reported in a recent number of *The Capital News*, published in Boise, Idaho, and sent in to the *Journal* by Mr. P. J. Zimmers, superintendent of schools in that city. Pupils in every grade from the first to the twelfth were active and almost all of the school subjects found a place.

The method of attack varied in different classes. In the first grade, for example, the teacher held up a picture of a battleship and asked, "What is it?" This led on to the question of cost, relation to taxes, etc. Much good material for oral composition was found in the study. Reading lessons were made up. The Conference on Disarmament was illustrated and dramatized.

In the intermediate grades the peace project was made the foundation for much work in arithmetic. Sample problems were: If a home can be built for $5000, how many could be built for the price of one battleship? If one student spends $750 for a year at college, how many could go to college for the price of one battleship?

In the fifth grade children learned at home the monthly expense of the family and found how many families in Boise could live as well as they do now for the cost of one gun. Slogans were written out in the penmanship class. In hygiene the children discussed such topics as pestilence and tuberculosis which follow the exposure incurred in trench warfare.

In higher classes still more difficult studies were undertaken, such as the amount of coal needed for the ships of the Navy as compared with that needed for the schools of Boise. It appeared that the supply used by the Navy between April, 1919, and April, 1920, would

heat the schools of Boise for 1500 years. History classes in the high schools studied the real purpose and personnel of the Conference and such detailed features as the program of Secretary Hughes and the interests and policies of Japan.

The result of such activities has been, of course, that all the children are eager for more news of the Conference.

SECOND ANNUAL MEETING OF N. A. D. S. S. T.

The second annual meeting of the National Association of Directors of Supervised Student Teaching will be held in Chicago during the time of the meeting of the Superintendents' Section of the N. E. A. The following program has been arranged and the invitation is extended to all who are interested in these discussions to attend the sessions, which will be held at the Palmer House, corner State and Monroe streets, on Monday and Tuesday forenoons, February 27 and 28, 1922.

PROGRAM

Monday, February 27, 1922, 9:00 a. m.

1. Administration of Student Teaching in the Teacher-Training Institutions of the United States. E. I. F. Williams, Professor of Education, Heidelberg University, Tiffin, Ohio.

2. The Case Method for the Study of Teaching. Wm. P. Burris, Dean of the College for Teachers, University of Cincinnati.

3. The President's Annual Address. A. R. Mead, Professor of Education, Ohio Wesleyan University, Delaware, Ohio.

4. Discussion of Certain Papers Given at the Atlantic City Meeting of N. A. D. S. S. T. Fiske Allen, Director of the Training School, Eastern Illinois State Teachers College, Charleston.

5. Graded Units in Student Teaching. H. C. Pryor, Head of Department of Education, Northern Normal and Industrial School, Aberdeen, S. Dak.

6. Open Discussion of Papers Given.

Tuesday, February 28, 1922, 9:00 a. m.

1. Preparing Teachers Through Preparation. H. L. Miller, Professor of Education and Principal of University of Wisconsin High School.

2. Methods of Making Assignments for Student Teaching. H. R. Douglass, Professor of Secondary Education, University of Oregon.

3. Student Teaching and the Junior High School. H. C. Foster, Head of Department of Education, Michigan State Normal College, Ypsilanti.

4. Essential Factors in the Supervision of Student Teaching. H. W. Nutt, Director of Training School, University of Kansas.

5. Importance of Aims of Education in Teacher Training. H. G. Swanson, Professor of Education and Director of Demonstration School, State Teachers College, Kirksville, Missouri.

Special. Arrangements are being made for a luncheon at noon on Tuesday, the 28th, at which time a discussion of some of the more important tendencies in Teacher Training will be given by Dr. Wm. C. Bagley.

ROBERT A. CUMMINS, *Sec'y-Treas.*,
University of Southern California,
Los Angeles, California.

THE READER'S GUIDE

AMERICAN EDUCATION

Of two recent volumes dealing with the history of education in America, one is for the general reader and the other for students in normal schools.[1] Because of the difference in purpose there is little ground for comparison between the two. The first is certainly the more readable, which suggests a query as to why textbooks, particularly textbooks in education for normal schools, need to be reduced to a bareness of treatment that repels rather than invites.

Mr. Slosson writes as a layman, but as one who has investigated his subject. In the matter of higher education he has a wealth of first-hand knowledge, obtained by a series of visits, the results of which he reported in his *Great American Universities*. His familiarity with the colleges leads him to give proportionally much larger space to describing them than would ordinarily be expected. Possibly he knows his audience and places his emphasis accordingly. It could hardly be accidental that almost all of his illustrations are of college buildings or of men prominent in the college world. The frontispiece, however, is a portrait of Horace Mann.

The most serious lack of perspective is in the treatment of the growth of high schools. This is easily the outstanding feature of public education in the last fifty years. The reader of Mr. Slosson's book will not get this impression, nor will he have more than an inkling of the character and size of the present high school population nor of the development of its course of study to the point where it is suited to the requirements of all the children of the community.

The scientific movement in education is scarcely touched. The replacing of an obsolete descriptive educational psychology with a psychology of activity has made possible a completely new statement of educational aims and of educational methods and is the basic cause of the nation-wide transformation of elementary school work and reorganization of the seventh, eighth, and ninth grades which is in progress. A British reader would not suspect this, if he had read no other account of recent educational movements in America than that of Mr. Slosson.

Nevertheless the book is delightful. There are no lapses of style or false notes. The stream of thought flows smoothly on and the reader finds himself borne steadily forward, without undue effort, unwilling to lay down the volume till the end is reached. Many passages are memorable. Neatly turned sentences and unhackneyed phrasing give a fresh and illuminating sense of the significance of events already familiar. Much of the appeal of the work is no doubt due to the biographical element. The subtitle, "A Chronicle of Great Teachers," apprises the reader at the outset that he will hear more of men than of institutions. Except for the advanced reader or the technical expert, this point of view is undoubtedly best. After all, "Institutions are the lengthened shadows of great men."

Professor Finney's book is by contrast commonplace. He has intentionally written down to his readers and hence will not inspire them. There is lacking also that gripping sequence which leads the reader on. The order of chapters is in some parts puzzling. Wishing to present European backgrounds, the author interpolates chapters on Rousseau, Pestalozzi, Froebel, and Herbart; the connection, however, is not close. Professor Cubberley has done the thing very much better in his

[1] *The American Spirit in Education*, by Edwin E. Slosson, Yale University Press; *The American Public School*, by Ross L. Finney, The Macmillan Company.

Public Education in the United States—a book, by the way, which Mr. Slosson does not seem to know.

As a simple outline upon which to build a course in American education for beginners, *The American Public School* will prove of value. The author is undoubtedly right in thinking that the elaborate surveys of education in ancient and medieval times which were once inflicted upon students in normal schools were of little use. He has made a commendable selection of the facts really worth teaching. All teachers should know them. Students using his book would enjoy the more literary treatment of Mr. Slosson and should read *The American Spirit in Education* straight through for its total effect. It is full of both sweetness and light.

SIGNIFICANT ARTICLES

THE LINCOLN SCHOOL

In the *Educational Review* for January will be found an article on "Education as Viewed by the Lincoln School," contributed by Dr. Otis W. Caldwell, the Director. The substance of the article was originally presented as a Commencement address before the school and is now adapted to a wider audience. Among the principal points emphasized are the fact that thoughtful parents wish their children to have an education which will fit them for something more than merely making a living; that this education must come by doing and being; that therefore the pupils should be allowed to participate in the conduct of school affairs, and that the school subjects should be reorganized on a more vital basis. Dr. Caldwell thinks that there are signs that the education which the school is providing is an improvement upon the older traditions.

HIGH SCHOOL INTERESTS IN DETROIT

The latest number of the *Detroit Educational Bulletin* published by the Board of Education in that city, contains a wide range of articles. Among those of more general interest are the following: "The Education Outlook," by the late Frank V. Thompson, Superintendent of Schools in Boston; "Comparative Values of Different Methods of Civic Education," by Professor David Snedden of Teachers College, Columbia University; "Problems and Solutions in the Classification of School Children," by Miss Jennie B. Boyer of Detroit Teachers College; and "Speech Improvement—The Program in Practice," by Mr. C. C. Certain, assistant principal of Northwestern High School, Detroit, Michigan, managing editor of the *Bulletin*.

METHOD OR ORGANIZATION?

Shall we think of projects in terms of method or in terms of organization? Mr. W. S. Dakin of Hartford, Conn., prefers the latter. Writing in the *Journal of Education* of December 1, Mr. Dakin reviews succinctly the current tendencies with regard to the so-called project method. He thinks it a serious effort to coordinate and put into actual practice: (1) better motivation of work in fundamental subjects; (2) economy of time by intensive study of large units; (3) indirect teaching of facts through the use of the tool subjects in solving problems; (4) correlation of fundamental subjects with informational, constructive, and cultural exercises; and (5) class coöperation in the preparation and discussion of lessons.

Much good, Mr. Dakin says, would result from considering the project as a means of reorganizing our courses of study, of readjusting relations between the three R's and other subjects, and of shifting the emphasis from memorizing to doing. To prevent haphazard skipping from one high spot to another, projects should be selected from the courses of study as now organized. As a plan of teaching, the project may call into play all the basic methods, including drill. The pupils ought to take part in the selection of the aim and the development of the general plan.

Not the least important of Mr. Dakin's

suggestions is his statement that the introduction of the project plan will require a higher type of supervision. Neither mechanical checking of progress nor the use of tests and scales will suffice. The supervisor must actually help the teacher in evolving her plans.

MEASUREMENT IN EDUCATION

It is significant of the tendency of the times that Professor Edward L. Thorndike of Teachers College should be called upon to deliver the annual address at the opening exercises of Columbia University in September on the subject of "Measurement in Education." Professor Thorndike spoke appropriately on the use of measurements in determining fitness for entrance to college. He summarized the results of investigations which showed how inadequate the older systems were, and commented upon the progress that is being made at Columbia College, Brown University, and elsewhere to apply objective measures. A summary of his address will be found in the *Teachers College Record* for November, 1921.

MARKS AND MOTIVES

One of the best means of keeping in touch with education in England is the *Educational Times*, edited by Mr. Frank Roscoe of London, Secretary of the Teachers' Registration Council, who is remembered by many as a visitor to the National Education Association a few years ago. In the January number of this magazine we find an article on "Marks and Motives," by A. F., which contains many suggestions useful to American teachers. The main idea is to provide better motives than those which school marks afford. One device is to divide the class into two groups known as Romans and Carthaginians and, pitting these groups against each other, to reward the victors with some much sought for privilege. The writer believes that a system can be built up in such a way as to dispense with marks altogether in the upper grades.

THE PROJECT IN GEOGRAPHY

A somewhat comprehensive exposition of the possibilities of the project method as applied to the teaching of geography appears in *Education* for January from the pen of Fred. K. Branom, instructor in geography in the Chicago Normal College. After setting forth the principal aims of teaching geography, Mr. Branom asks, "How may the teacher succeed best in teaching geography?" His answer is, "Through projects." He then proceeds to show somewhat in detail what he understands by projects and how they can be carried out. His survey of the character of the problems which are now being presented will be welcome to all who are interested in new methods.

THE NEW BOOKS

The New World Problems in Political Geography. By Isaiah Bowman. Yonkers, N. Y.: World Book Co., 1921. Pp. 632. Price, $6.00.

A most informing survey of the "new world" by the Director of the American Geographical Society. Profusely illustrated. Excellent maps.

The Teaching of History in Junior and Senior High Schools. By Rolla Milton Tryon. Boston: Ginn & Co., 1921. Pp. vi + 294.

A valuable presentation of the newer point of view and newer material for classroom use.

Psychology and the School. By Edward Herbert Cameron. New York: Century Co., 1921. Pp. xiv + 339. Price, $2.00.

A popular treatment for beginners. Fairly comprehensive, clear, and well printed.

The Parent and the Child. Case Studies in the Problems of Parenthood. By Henry Frederick Cope. New York: Geo. H. Doran Co., 1921. Pp. 184.

Useful for all who are concerned with the care and training of children.

The Parish School—Its Aims, Procedure, and Problems. By Rev. Joseph A. Dunney. New York: Macmillan Co., 1921. Pp. xx + 326.

A distinctly progressive view of Catholic schools for the general reader.

Contemporary British Literature. Bibliographies and Study Outlines. By John Matthews Manly and Edith Rickert. New York: Harcourt, Brace & Co., 1921. Pp. viii + 196.

Suggests the desirability of a similar volume dealing with American writers.

Producing in Little Theaters. By Clarence Stratton. New York: Henry Holt & Co., 1921. Pp. 258, illus.

Both educators and general readers will find this book delightful and informing.

Modern Junior Mathematics. By Marie Gugle. New York: Gregg Publishing Co., 1920. Book One, pp. x + 222, price 80 cents; Book Two, pp. xiv + 239, price 90 cents; Book Three, pp. xiv + 246, price $1.00; Teachers Manual, pp. 27, paper, price 25 cents.

A course complete in three books for seventh, eighth, and ninth grades.

The Common-Word Spellers. By Ervin Eugene Lewis. Boston: Ginn & Co., 1921. Book One, pp. x + 150, illus.; Book Two, pp. viii + 184.

The two books cover the eight grades. Both choice of vocabulary and method have been modernized.

A Guide to the Teaching of Spelling. By Hugh Clark Pryor and Marvin Summers Pittman. New York: Macmillan Co., 1921. Pp. 141.

A book of concrete suggestions reflecting modern scientific studies.

Elementary English, Spoken and Written. By Lamont F. Hodge and Arthur Lee. New York: Charles E. Merrill Co., 1920. Book One, pp. 324, illus.; Book Two, pp. 484, illus.

IN PAPER COVERS

Preparation for Teaching History and Citizenship in Grades I to VI. A Manual for Normal Schools. Massachusetts Department of Education, 1921, Bulletin No. 6.

Studies in Education. Society of College Teachers of Education, Monograph No. X, Baltimore, Md., 1921.

Bridging the Gap. By James F. Hosic. The English Bulletin, Vol. I, No. 4, 1921.

Otis Group Intelligence Scale. Manual of Directions for Primary and Advanced Examinations. Revised edition. Yonkers, N. Y.: World Book Co., 1921.

Miller Mental Ability Test. By W. S. Miller. Yonkers, N. Y.: World Book Co., 1921.

Report of the Commissioner of Education for the Year Ending June 30, 1921. Washington: Government Printing Office, 1921.

Topics in Elementary Geography. By C. P. Sinnott. State Normal School, Bridgewater, Mass., 1921.

The Secret of Thrift. A Manual for Teachers, beginning with Grade VII. By Clifford B. Upton. Issued by American Bankers' Association, New York, 1921.

Detroit First-Grade Intelligence Test. Ay Anna M. Engel. Yonkers, N. Y.: World Book Co., 1921.

Recent Publications of the Department of the Interior, Bureau of Education, 1921: *Part-Time Education of Various Types*, Bulletin No. 5. *Pharmaceutical Education*, by Wortley F. Rudd and P. F. Fackenthall, Bulletin No. 11. *The Housing and Equipment of Kindergartens*, Bulletin No. 13. *Education of the Deaf*, by Percival Hall, Bulletin No. 14. *Special Features in the Education of the Blind During the Biennium 1918–1920*, by Edward E. Allen, Bulletin No. 16. *Educational Boards and Foundations, 1918–20*, by Henry R. Evans, Bulletin No. 17. *Education in Homeopathic Medicine During the Biennium 1918–1920*, by W. A. Dewey, M. D., Bulletin No. 18. *Educational Survey of Wheeling, West Virginia*, Bulletin No. 28. *The Work of the Bureau of Education for the Natives of Alaska*, Bulletin No. 36. *Educational Work of the Boy Scouts*, by Lorne W. Barclay, Bulletin No. 41. *Business Training and Commercial Education*, by Glen Levin Swiggett, Bulletin No. 43. *Educational Work of the Girl Scouts*, by Louise Stevens Bryant, Bulletin No. 46.

What to Expect in the Future

SUCCEEDING numbers of *The Journal of Educational Method* will contain features which no one interested in better teaching will care to miss.

The series of articles on method by Professor Kilpatrick and the account of an experiment in supervision by Professor Hosic will be continued. Other titles are:

REORGANIZATION OF THE COURSE IN THE NORMAL SCHOOL

SUPERVISION WITHOUT A SUPERVISOR

WHAT SUPERVISORS NEED TO KNOW ABOUT STANDARD TESTS

BETTER METHODS IN COLLEGE

ADMINISTRATIVE CONDITIONS OF GOOD TEACHING

HOW WE ARE WORKING OUT A COURSE OF STUDY

THE PROJECT METHOD IN THE HIGH SCHOOL

THE PRINCIPAL'S ATTITUDE TOWARD THE PROJECT METHOD

SELF-TESTING OF THE TEACHER OF ENGLISH

AN EXPERIMENT IN TEACHING CITIZENSHIP

METHOD AND THE CURRICULUM

Every number will contain one or more concrete accounts or plans of work. In addition there will be items of news, reviews, and announcements. The *Journal* is an indispensable index of progress in the theory of educational method, training of teachers, and supervision.

Subscription, $3 a year Single Numbers, 35 cents

The Journal of Educational Method

313 Park Hill Avenue
Yonkers-on-Hudson, New York

"THE JOHNSTON-NYSTROM LINE"

Maps Globes Charts Atlases

JOHNSTON-NYSTROM Better Maps GLOBES CHARTS

Political Geography
Ten Series, consisting of 126 different maps, varying from the cheapest that are good to the best that are made.

Physical Geography
Five Series, consisting of 82 different maps.

Commercial Geography
THE NEW FINCH COMMERCIAL GEOGRAPHY MAPS OF UNITED STATES—34 maps, also Johnston Commercial and Library Maps of the world.

United States History
Sanford American History Series, 82 maps (a new Map now ready).

Mediaeval and Modern History
Webster-Knowlton-Hazen Series, (NEW) 26 maps.

English History
Johnston English History Series, 19 maps.

Ancient History
Johnston Ancient History Series 7 maps.

Outline Maps
Wall Outline Maps, 8 maps.
Desk Outline Maps (two sizes), 70 maps.

Blackboard Maps
Two Series, consisting of 24 maps. Blackboard Maps of various states. Miscellaneous Maps, Graph Charts, etc.

Miscellaneous Maps
Rainfall, Vegetation, Geological, Glacial, Thermal, Scriptural, Language, City Plans, Maps of all States, etc. Write us regarding your SPECIAL MAP NEEDS.

Physiology and Anatomy
FRE WONDERFUL AMERICAN FROBSE ANATOMICAL CHARTS, 17 LIFE-SIZE CHARTS ON 7 PLATES. Johnston Charts of Anatomy and Physiology, two series, 21 charts.

Botany
Jung, Koch and Quentell Series, 47 charts.
Johnston Advanced Series, 4 charts.
Johnston Elementary Series, 14 charts.

Zoology
Jung, Koch and Quentell Series, 36 charts.
Johnston Series, 8 charts.

Astronomy
Johnston Series, 4 charts.

Globes
Five Sizes, in all mountings. Stand, Suspension and Library, Celestial Globes, Slated Globes, Tellurians.

Atlases
Political, Historical, Commercial, Scriptural, Astronomical, etc.

Send for complete catalog No. CA31

A. J. NYSTROM & CO. PUBLISHERS OF GEOGRAPHICAL AND HISTORICAL MATERIAL
Member National School Supply Association
2249-53 Calumet Avenue, CHICAGO

SUMMER SESSION

JUNE 19 TO AUGUST 11, 1922

PRACTICAL courses for Kindergarten and Primary Grade Teachers. Credit toward diploma. Dormitories on College Grounds. Observation in Kindergarten and Primary Grades of Public Schools and in the College Demonstration School where Project Method is used. Ideal recreations for Summer Students in Chicago.

Write the Registrar for Bulletin and Book of Views

National Kindergarten and Elementary College

36th Year *Accredited*

2944 MICHIGAN BLVD. Box 26 CHICAGO

293

"FINE WRITING"

The Pencil of the Schools

EBERHARD FABER

"The Oldest Pencil Factory in America"

NEW YORK

CORRECT ENGLISH

HOW TO USE IT

JOSEPHINE TURCK BAKER, *Editor*

A MONTHLY MAGAZINE

$2.50 THE YEAR

Send 10 cents for sample copy to

Correct English Publishing Co.
Evanston, Illinois

Agents Wanted